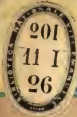


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ANTIQUITIES
OF THE
STATE OF NEW YORK.

BEING THE RESULTS OF EXTENSIVE ORIGINAL SURVEYS
AND EXPLORATIONS,

WITH

A SUPPLEMENT

ON THE

ANTIQUITIES OF THE WEST;

ILLUSTRATED BY FOURTEEN QUARTO PLATES AND EIGHTY
ENGRAVINGS ON WOOD:

By E. G. SQUIER, M. A.,

Foreign Member of the British Archaeological Association; Member of the American
Ethnological Society; the Pennsylvania Academy of Natural Sciences; the
New York Historical Society; the Massachusetts Historical
Society; the Historical and Antiquarian
Society of Tennessee, etc., etc



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PREFACE.

THE investigations, the results of which are embodied in the following pages, were undertaken in the autumn of 1848, under the joint auspices of the Historical Society of New York, and the Smithsonian Institution of Washington. They were originally published in the Second Volume of the "SMITHSONIAN CONTRIBUTIONS TO KNOWLEDGE," in a form far too costly to be generally accessible. But as it is the design of this Institution to promote knowledge, by giving as wide a diffusion to new facts as possible, its officers have liberally assented to their republication in the present form, and permitted the use of the original plates and engravings, for that purpose. By this means, the work is placed within the reach of all who are interested in the subject of American Antiquities, at a price far below what would have been the cost of its original production.

In preparing this edition, the author has added largely to the original Memoir, and has also appended a supple-

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ABORIGINAL MONUMENTS

OF THE

STATE OF NEW YORK.

CHAPTER I.

INTRODUCTORY OBSERVATIONS.

THE Indian tribes found in possession of the country now embraced within the limits of New England and the Middle States have left few monuments to attest their former presence. The fragile structures which they erected for protection and defence have long ago crumbled to the earth ; and the sites of their ancient towns and villages are indicated only by the ashes of their long-extinguished fires, and by the few rude relics which the plough of the invader exposes to his curious gaze. Their cemeteries, marked in very rare instances by enduring monuments, are now undistinguishable, except where the hand of modern improvement encroaches upon the sanctity of the grave. The forest-trees, upon the smooth bark of which the Indian hunter commemorated his exploits in war, or success in the chase—the first rude efforts toward a written language—have withered in the lapse of time, or fallen beneath the inexorable ax. The rock upon which the same primitive historian laboriously wrought out his rude, but to

him significant picture, alone resists the corrosion of years. Perhaps no people equally numerous have passed away without leaving more decided memorials of their former existence. Excepting the significant names of their sonorous language, which still attach to our mountains, lakes, and streams, little remains to recall the memory of the departed race.

But notwithstanding the almost entire absence of monuments of art clearly referable to the Indian tribes discovered in the actual possession of the region above indicated, it has long been known that many evidences of ancient labor and skill are to be found in the western parts of New York and Pennsylvania, upon the upper tributaries of the Ohio, and along the shores of Lakes Erie and Ontario. Here we find a series of ancient earth-works, intrenched hills, and occasional mounds, or tumuli, concerning which history is mute, and the origin of which has been regarded as involved in impenetrable mystery. These remains became a subject of frequent remark, as the tide of emigration flowed westward; and various detached notices of their existence were, from time to time, made public. No connected view of their extent or character was, however, given to the world, until 1817, when De Witt Clinton, whose energetic mind neglected no department of inquiry, read a brief memoir upon the subject before the "Literary and Philosophical Society of New York," which was published in pamphlet form, at Albany, in 1818. Mr. Clinton in this memoir did not profess to give a complete view of the matter; his aim being, in his own language, "to awaken the public mind to a subject of great importance, before the means of investigation were entirely lost." It consequently contains but little more than notices of such ancient earth-works, and other interesting remains of antiquity, as had at that time fallen under his notice, or of which he had received some distinct information. Its publication was, however, without any immediate effect; for few individuals, at that period, felt the interest requisite, or possessed the opportunities necessary, to the continuance of

the investigations thus worthily commenced. Nothing further, it is believed, appeared upon the subject, until the publication of McCauley's History of New York, in 1828. This work contained a chapter upon the antiquities of the State, embodying the essential parts of Mr. Clinton's memoir, together with some facts of considerable interest, which had fallen under the observation of the author himself. Within a few years, public attention has again been directed to the subject by Mr. Schoolcraft, in his "Notes on the Iroquois." Some detached facts have also been presented in local histories and publications, but usually in so loose and vague a manner, as to be of little value for purposes of comparison and research.

The observations, of all these authorities were merely incidental, and were limited in their range. By none were presented plans, from actual surveys, of any of the ancient works of the State; a deficiency which, it is evident, could not be supplied by descriptions, however full and accurate, and without which it has been found impossible to institute the comparisons requisite to correct conclusions as to the date, origin, and probable connections of these remains. It has all along been represented that some of the inclosures were of regular outlines, true circles and ellipses and accurate squares—features which would imply a common origin with the vast system of ancient earth-works of the Mississippi Valley. Submitted to the test of actual survey, I have found that the works which were esteemed entirely regular are the very reverse, and that the builders, instead of constructing them upon geometrical principles, regulated their forms entirely by the nature of the ground upon which they were built. And I may here mention, that none of the ancient works of this State, of which traces remain displaying any considerable degree of regularity, can lay claim to high antiquity. All of them may be referred, with certainty, to the period succeeding the commencement of European intercourse.

Mr. Clinton was unable to learn of the occurrence of any

remains upon the first terrace back from the lakes, and, upon the basis of the assumed fact of their non-existence, advanced the opinion that the subsidence of the lakes and the formation of this terrace had taken place since these works were erected—a chronological period which I shall not attempt to measure by years. This deduction has been received, I believe, by every succeeding writer upon the subject of our antiquities, without any attempt to verify the assumption upon which it rests. I have, however, found that the works occur indiscriminately upon the first and upon the superior terraces, as also upon the islands of the lakes and rivers.

Misled by statements which no opportunity was afforded of verifying, I have elsewhere, though in a guarded manner, ventured the opinion that the ancient remains of western New York belonged to the same system with those of Ohio and the West generally.* Under this hypothesis, the question whether they were the weaker efforts of a colony, starting from the southwestern centers, or the ruder beginnings of a people just emerging from a nomadic state, becoming fixed in their habits, and subsequently migrating southward, next suggested itself; and I gladly availed myself of the joint liberality of the Smithsonian Institution and the Historical Society of New York, to undertake its investigation. The results of my observations are briefly presented in the following pages. These observations extended from the county of St. Lawrence on the north, to Chautauque on the south, embracing the counties of Jefferson, Oswego, Otsego, Oneida, Cayuga, Seneca, Ontario, Wayne, Monroe, Livingston, Orleans, Niagara, Erie, Genesee, and Wyoming. Throughout this entire region ancient remains are found in considerable abundance; they are also occasionally found in the counties adjoining those above named, upon the principal tributaries of the Delaware, Susquehanna, and Alleghany. They are known to extend down the Susquehanna, as

* "Ancient Monuments of the Mississippi Valley," p. 1.

far as the valley of the Wyoming; and a single one was discovered as far east as Montgomery county, in the neighborhood of Fort Plain. Some, it is said, are to be found in Canada; but no definite information was received of their localities. It is to be observed that they are most numerous in sections remarkable for their fertility of soil, their proximity to favorable hunting and fishing grounds—in short, possessing the greatest number of requisites to easy subsistence. They are particularly numerous in Jefferson county, in the vicinity of the central lakes, in the southern part of Monroe, in Livingston, Genesee, and Erie counties. Many are said to exist in Chautauque; but the lateness of the season, and the unsuspected number of remains elsewhere claiming attention, prevented me from examining them.

In respect to the number of these remains, some estimate may be formed from the fact that, in Jefferson county alone, fifteen inclosures were found, sufficiently well preserved to admit of being traced throughout. This is exclusive of those (probably a greater number) which have been wholly or in part destroyed, or of which no information could be obtained, in the limited time allotted to the investigation of that county. It is safe to estimate the whole number which originally existed here at between thirty and forty—a greater number than was before known to exist in the State. Erie county probably contained nearly as many. In the short period of eight weeks devoted to the search, I was enabled to ascertain the localities of not less than one hundred ancient works, and to visit and make surveys of half that number. From the facts which have fallen under my notice, I feel warranted in estimating the number which originally existed in the State at from two hundred to two hundred and fifty. Probably one half of these have been obliterated by the plough, or so much encroached upon as to be no longer satisfactorily traced.

Were these works of the general large dimensions of those of the Western States, their numbers would be a just ground of

astonishment. They are, however, for the most part, comparatively small, varying from one to four acres—the largest not exceeding sixteen acres in area. The embankments, too, are slight, and the ditches shallow; the former seldom more than four feet in height, and the latter of corresponding proportions. The work most distinctly marked exists in the town of Oakfield, Genesee county; it measures, in some places, between seven and eight feet from the bottom of the ditch to the top of the wall. In some cases the embankment is not more than a foot in height, and the trench of the same depth. Lest it should be doubted whether works so slight can be satisfactorily traced, it may be observed, that a regular and continuous elevation of six inches may always be followed without difficulty.

In respect of position, a very great uniformity is to be observed throughout. Most occupy high and commanding sites near the bluff edges of the broad terraces by which the country rises from the level of the lakes. From the brows of the limestone ledges, where some of these works occur, in Jefferson and Erie counties, most extensive prospects may be obtained, often terminating in the blue belt of the lakes, distant from ten to forty miles; the intervening country presenting a beautiful variety of cleared and forest lands, dotted with houses, churches, and villages. When found upon lower grounds, it is usually upon some dry knoll or little hill, or where banks of streams serve to lend security to the position. A few have been found upon slight elevations in the midst of swamps, where dense forests and almost impassable marshes protected them from discovery and attack. In nearly all cases they are placed in close proximity to some unfailing supply of water, near copious springs or running streams. Gateways, opening toward these, are always to be observed, and in some cases guarded passages are also visible. These circumstances, in connection with others not less unequivocal, indicate, with great precision, the purposes for which these structures were erected.

It has already been mentioned that Messrs. Clinton, Yates,

and Moulton, and others, have concluded, upon the assumption that none of these works occur upon the first and second terraces above the lakes, that the latter have subsided to their present level since their erection. This conclusion does not necessarily follow from the premises. Few positions susceptible of defence, under the system practiced by all rude people, are to be found upon either of these terraces; the builders, consequently, availed themselves of the numerous headlands and other defensible positions which border the supposed ancient shores of the lakes, simply because they afforded the most effectual protection, with the least expenditure of labor.

I found an entire uniformity in the indications of occupancy, and in the character of the remains of art discovered within these inclosures, throughout the whole range of their occurrence. The first feature which attracts notice, upon entering them, is a number of pits or excavations in the earth, usually at the points which are most elevated and dry. These pits are occasionally of considerable size, and are popularly called "wells," although nothing is more obvious than that they never could have been designed for any such purpose. They are usually from three to four, but sometimes from six to eight feet in depth, and of proportionate size at the top. Their purposes become sufficiently evident upon excavation. They were the *caches* in which the former occupants of these works deposited their stores. Parched corn, now completely carbonized by long exposure, is to be discovered in considerable abundance in many of them. Instances fell under my notice where it had been found untouched to the amount of bushels, in these primitive depositories. Traces of the bark and thin slips of wood, by which the deposits were surrounded, are also frequently to be found. In many of these inclosures the sites of the ancient lodges, or cabins, are still to be traced. These are marked by considerable accumulations of decomposed and carbonaceous matter—stones much burned, charcoal and ashes mingled with the bones of animals, with numerous fragments of pottery, broken pipes, and

occasionally rude ornaments, such as beads of stone, bone, and shell. The pottery, I may observe incidentally, is of very good material, and appears to have been worked and ornamented with considerable taste and skill. It is found in great abundance; and, in many of the inclosures now under cultivation, bushels of fragments might, if desirable, be collected without difficulty. The material, in common with that of all the aboriginal pottery of the North, is composed of clay tempered (if I may use the term) with pounded quartz and shells, or with fine sand, so as to prevent shrinkage, and resist the action of fire. Most of it is well hurned, but none exhibits any appearance of glazing. The pipes are mostly composed of clay, regularly and often fancifully moulded, and ornamented in various ways. Some bear the form of animals, the distinctive features of which are well preserved; others are moulded in the shape of the human head, or are variously fluted and dotted with regular figures. They are generally of very good material, the clay of fine quality, and well hurned. Some, indeed, are so hard, smooth, and symmetrical, as almost to induce doubts of their aboriginal origin. Some of the terra cottas, other than pipes, are really very creditable specimens of art, and compare favorably with any of the productions of the aborigines which have fallen under my notice. They are, with few exceptions, representations of animals; with the minutest features of which, as well as with their peculiar habits, the American Indians had, from long observation, a thorough acquaintance.

CHAPTER II.

EARTH-WORKS, INCLOSURES, ETC.

FOR the sake of convenience and easy reference, the inclosures of earth are arranged according to counties, and so described. Works which were constructed of palisades simply, without embankments or ditches, do not fall within this arrangement, but will be described collectively in a separate chapter, under the head of "PALISADED INCLOSURES."

ST. LAWRENCE COUNTY.

A FEW aboriginal monuments are said to have existed in this county. One or two of these occurred near Potsdam; but it is probable they are now nearly, if not quite obliterated.

A mound, eight feet in height, still exists on St. Regis Island, in the St. Lawrence River. It is crossed by the boundary line separating the territories of the United States and Great Britain. It was excavated by Col. Hawkins, of the United States Boundary Commission, in 1818. Near the surface were human bones in considerable numbers, and in good preservation; but at the base were found traces of fire, charcoal, burned bones, and fragments of pottery, together with some stone implements and ornaments.

Upon the Canada shore of the St. Lawrence River, opposite Morrisville in this county, a singular aboriginal deposit was discovered some years ago, in making the excavations for the St. Lawrence Canal. The principal facts concerning them were communicated to the author by Dr. T. Reynolds, of Brockville, C. W., and are embodied in Vol. I. of the "Smithsonian Con-

tributions to Knowledge," pp. 201, 202. Among the relics of copper and other materials, discovered at this spot and described as above, was a small *terra cotta* mask of very good workmanship. An engraving of the size of the original is herewith presented (Fig. 1). Mr. Reynolds, who has the relic in his possession, describes it as follows: "It is of clay, and represents the contour of the Indian head, after which it appears to have been molded. It corresponds very nearly in shape with the skulls discovered at the same place, and the *foramina*, or holes found in the skull, are well represented—showing that it was modeled to resemble the bony structure of the head, not the flesh or living subject. It seems to have been broken off from some idol or image."



FIG. 1.

JEFFERSON COUNTY.

This county is bounded on one side by Lake Ontario, and upon the other by the wild, mountainous region which separates the waters of the Hudson River from those of the St. Lawrence. It is intersected by the Black River, one of the most picturesque streams of the State. Its surface is diversified: for about ten miles back from the shores of the lake, it is nearly level; we then reach the ledges of the Trenton limestone, and the entire country becomes more elevated and irregular. These natural features, implying an abundance of fish and game, joined to great fertility of soil and easy cultivation,

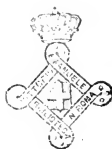
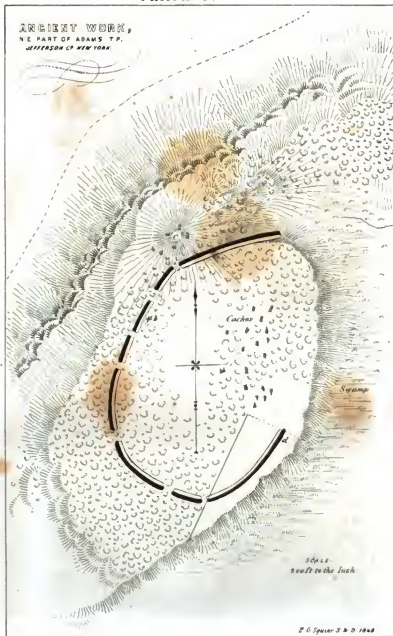


PLATE I.

ANCIENT WORK,
NE PART OF ADAMS TP.
JEFFERSON CO NEW YORK



fitted this county for sustaining a large aboriginal population. We are not surprised, therefore, at finding here numerous traces of former occupancy. These consist chiefly of inclosures of irregular outlines, situated, for the most part, upon the borders of the high table-land or terrace formed by the abrupt termination of the great limestone deposit of the Trenton group, the base of which, it is supposed, was formerly washed by the waters of Lake Ontario. Quite a number of these works, however, occur upon the lower terrace, in places where the natural features of the ground were favorable to their construction and objects. Works were examined in this county, in the townships of Watertown, Le Ray, Rutland, Rodman, Adams, and Ellisburgh.

The following examples are presented in the order in which they were surveyed

PLATE I.

Ancient Work, Adams Township, Jefferson County, New York.

This work occupies a commanding position upon the brow of the second terrace, which is here some hundreds of feet in height, and very abrupt. The ground immediately back of the site of the work is considerably depressed and swampy. It is drained by a little stream (a), which, falling over the cliff, forms a small but picturesque cascade. The narrow channel of this stream was formerly obstructed by a beaver-dam, which converted the marsh into a deep and impassable pond. The elevation upon which this work is situated, it will thus be seen, was well fitted by nature for defensive purposes—possessing the two primary requisites, difficult approach and an unfailing supply of water.

The artificial defences consist of an embankment of earth, with an exterior ditch. The forest covers the greater part of

the work, and here the lines are still well preserved. The embankment has an average height of perhaps three feet, by ten feet in width at the base; the ditch is of corresponding dimensions. There are not less than seven gateways, varying from eight to thirty feet in width. Upon the right of the work, toward the swamp already mentioned, there is an abrupt bank not far from thirty feet in height, where the defences are interrupted. At the point indicated by the letter *b*, a large bass-wood (linden) tree is standing upon the embankment. It measures twelve feet in circumference, three feet above the ground. The trees within the inclosure are of the usual size.

Upon the northeastern slope of the eminence, within the walls of the inclosure, and where the soil is sandy and dry, are a great number of small pits and depressions in the earth. They are now nearly filled by accumulations of leaves, but they must at first have been from four to six feet in depth. Upon excavating some of them, it was found that they were the *caches* in which the former occupants of the work had placed their stores.* And although it seems probable the original deposits had been removed, considerable quantities of parched corn, now

* The term *cache*, literally a *hide* or place of concealment, is of French origin, and has become current among all the traders and trappers on the frontiers. The practice of *caching* or hiding goods or provisions on outward marches, to be used upon returning, or by parties following, was derived from the Indians, among whom it was general. A *cache* is made by digging a hole in the ground, which is lined with sticks, grass, or any material which will protect the contents from the dampness of the earth. After the goods or provisions have been deposited, the earth is carefully covered over, so as best to prevent the penetration of water from above. "It is often, in fact always necessary, at the West, to leave no signs by means of which rival parties or the cunning savages may discover the place of deposit. To this end the excavated earth is carried to a distance, and carefully concealed, or thrown into a stream, if one is near. The place selected is usually some rolling point, sufficiently elevated to be secure from inundations. If it be well set with grass, a solid piece of the turf of the size of the proposed excavation is cut out. It is afterward laid back, and taking root in a short time, no

carbonized by long exposure, were still to be found within them. There were, perhaps, forty or fifty of these excavations within the walls, and several upon the crown of the eminence at *C*.

Upon removing the leaves at various points within the work, carbonaceous accumulations, bones of animals, fragments of pottery, and other evidences of occupation were discovered. A small portion of the work, indicated on the map, has been cleared and put under cultivation. Here, just exterior to the wall, upon the brow of the natural bank, at the spot marked *d*, several skeletons have been exhumed by the plough. They had been buried in a sitting posture, and were very well preserved.

By the operation of diluvial causes, the drift has been deposited, in a very singular manner, upon the table-land upon which the above work is situated. In some places it occurs in long, narrow ridges, conforming to the general course of the terrace bank; in others it forms amphitheatres of various sizes; and in a few instances it assumes a conical shape, resembling artificial tumuli. A short distance to the right of the work under notice is a small natural amphitheatre, rising in the midst of the marshy grounds, which has been supposed by some to be artificial. Its relative position is indicated by the letter *e*.

signs remain of its ever having been molested. However, as every locality does not afford a turfy spot, the camp-fire is sometimes built upon the place, or the animals are penned over it, which effectually destroys all trace of the disturbance."—(*Gregg's Commerce of the Prairies*, vol. i. p. 69.) Father Hennepin, in his account of his passage down the Mississippi River, in 1680, describes an operation of this kind in the following terms: "We took up the green sod, and laid it by, and digged a hole in the earth, where we put our goods, and covered them with pieces of timber and earth, and then put in again the green turf: so that it was impossible to suspect that any hole had been digged under it, for we flung the earth into the river."

About one and a half miles southeast of the above work, was formerly another of perhaps larger size. It occupied a high, oval-shaped hill, one side of which is very steep, while the other subsides gently to the general level. The embankment extended in a semicircular form around that part of the hill not protected by nature; and, previous to the cultivation of the ground, was upwards of six feet in height from the bottom of the trench. A very slight depression, and the greater luxuriance of the verdure, resulting from the filling of the trench with surface loam, are all that now indicate the original lines. It is said that there was an avenue leading off, for some distance, to the westward; but it is no longer traceable. At the base of this hill is a bowlder, in which are several artificial depressions, doubtless intended for mortars, and a variety of grooves, in which the stone axes and other implements of the aborigines were rubbed, in order to reduce them to the required shape.

PLATE II. No. 1.

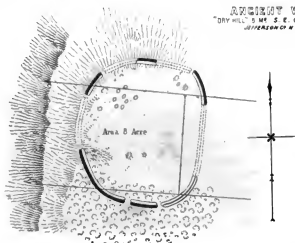
Ancient Work on "Dry Hill," five miles southeast of Watertown, Jefferson County, New York.

FOLLOWING the brow of the terrace northward from the work first described, for about two miles, we come to another work of somewhat more regular figure, and of larger dimensions. Most of it is under cultivation, and the outlines are very much defaced. The embankment, upon one side, runs into the forest land, where it is well preserved, measuring, perhaps, three feet in height. The darker lines of the engraving show what parts are still distinctly marked; the dotted lines those which have been ploughed down, and which are no longer distinguishable from the general level, except by the deeper green and more luxuriant growth of the grass on the line of the

PLATE II.

N^o 1.

ANCIENT WORK,
"DRY HILL" 5 MI. S. E. OF WATERTOWN,
JEFFERSON CO. N. Y.

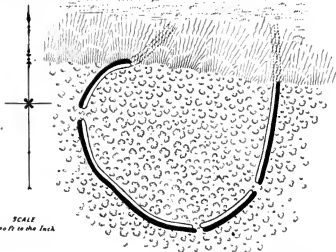


SCALE,
400 Ft. to the Inch.

E. G. Spauld - E. & D.

ANCIENT WORK,
2 1/4 MI. S. E. OF WATERTOWN,
JEFFERSON CO. N. Y.

N^o 2.



SCALE
400 Ft. to the Inch

E. G. Spauld - E. & D.



ancient trench. The position of the work, it will be seen, corresponds very nearly with that of the one previously described. There is, however, no water near at hand, except a limited supply from a small spring. Nevertheless, this seems to have been the site of a very populous aboriginal town. The entire area of the work is covered with accumulations of carbonaceous matter, burned stones, fragments of bones, pottery, etc. Indeed, these indications are visible for some distance exterior to the walls, upon the adjacent level. These artificial accumulations have rendered the soil within the inclosure extremely fertile, and it sustains most luxuriant crops. In cultivating the area, many fragments of human bones, some of them burned, have been observed—suggesting the possibility that the ancient village was destroyed by enemies, and that these are the bones of its occupants, who fell in defence of their kindred, and were burned in the fires which consumed their lodges. A little to the northward of the work, there seems to have been an aboriginal cemetery. Here the plough frequently exposes skeletons, buried according to the Indian mode, and accompanied by various rude relics of stone and bone. Within and around the work are also found stone axes, flint arrow-heads, and other remnants of savage art. Fragments of pottery and broken pipes of clay are, however, most abundant. Of these bushels might be collected without much difficulty.

It is clear that this work was not intended as a place of last resort, but was occupied by a considerable population for a long period. It was undoubtedly a fortified town. It should be remarked, that although now nearly or quite filled up, here were originally a number of pits (popularly known as *wells*) of considerable size—the *caches* of the ancient occupants.



PLATE II. No. 2.

*Ancient Work two and a half miles southeast of Watertown,
Jefferson County, New York.*

STILL continuing along the brow of the terrace northward, for two and a half or three miles, we reach a third work, the greater part of which is covered with forest, and is consequently well preserved. It is much smaller than any of those before described, and is bounded by a series of right lines, slightly rounded at the angles, which gives it something of the appearance of a modern field-work. The slope of the terrace bank is here comparatively gentle, and there is a *step* or table about midway from the brow to the base. Here a number of springs start out, below the stratum of rock. Formerly the walls of the work were continued down the slope, toward the springs, as indicated by the dotted lines in the plan. They are not now to be traced further than the edge of the terrace. The position of this work is remarkably fine, and was selected with taste and skill. The table-land immediately around it is level; the soil gravelly and dry. There seems to have been a burial-place in this vicinity, and pipes and fragments of pottery are of common occurrence. It is to be hoped that the remaining portion of this work will be preserved from the encroachments of the plough.

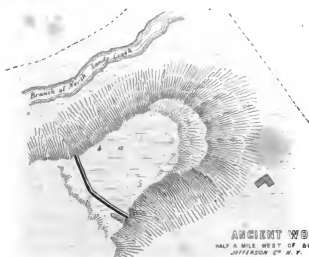
PLATE III. No. 1.

*Ancient Work half a mile west of Burrville, near Watertown,
Jefferson County, New York.*

A WORK, differing somewhat from those before described, is situated two miles north of the inclosure last noticed, upon a high promontory or headland, half a mile west of the little village of Burrville. The northern base of this promontory is

PLATE III.

N^o 1.

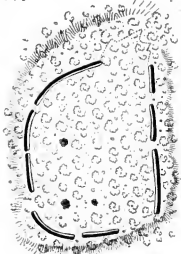


SCALE.
400 ft to the Inch

ANCIENT WORK,
HALF A MILE WEST OF BURRVILLE,
JEFFERSON CO. N. Y.

E. G. Spaul, 1848.

N^o 2



ANCIENT WORK,
RUTLAND TP. JEFFERSON CO. N. Y.

E. G. Spaul 1848

N^o 3.



ANCIENT WORK,
LE RAY TP. JEFFERSON CO. N. Y.

E. G. Spaul 1848

ALL OF WHICH ARE NOW IN THE

washed by a small and rapid stream, a branch of the east fork of Sandy Creek. Deep ravines lend strength to the position on the remaining sides, except toward the west, where it joins the highlands. Here, extending across the neck of the promontory, (the only direction from which access is easy,) was formerly an artificial defence, consisting of an embankment of earth and a trench. The plough has filled the one and leveled the other, but the lines can still be accurately traced by attending to the various circumstances already repeatedly mentioned. At the part marked *a*, was formerly a large deep pit, resembling the cellar of a dwelling-house. At *b*, was also an accumulation of large stones, bearing traces of fire; and which the early settlers, indulging in vague notions of the mineral wealth of the country, called "*the Furnace*."

Most of these stones were used to fill the pit near by; but enough still remain to mark the site of the supposed "furnace." Whenever the land in this work is ploughed over, many relics of art are disclosed, fragments of pottery, broken pipes, implements of stone and bone, beads of similar materials, etc., etc.

About a mile northeast of this place, upon a fine level tract of ground, are the traces of an aboriginal village. Rude fire-places, constructed of rough stones huddled together, and surrounded by carbonaceous accumulations, sometimes two feet deep, mark the site of the ancient lodges. These indications are numerous. Here, too, are to be found relics, entirely corresponding with those already noticed, as occurring within and around the ancient inclosures.

PLATE III. No. 2.

Ancient Work, Rutland Township, Jefferson County, New York.

THE slightest and much the rudest structure discovered in Jefferson county, is the one here delineated. It is situated about a hundred rods back from the brow of the terrace, already so often referred to, and which here rises abruptly from the inferior level, presenting a bold, and, in some places, a precipitous bank.

Notwithstanding its elevation, this terrace has numberless depressions or basins, which are wet and marshy. Upon a slight elevation, in the midst of one of these, and still covered with a primitive forest, is the work in question. It will be observed that it is exceedingly irregular, and that the lines are interrupted by several wide openings, which are quite too broad to be regarded as gateways.

The embankment is not of uniform dimensions. In some places it is elevated but a foot or eighteen inches, by four or five feet base, while in others it is perhaps three feet in height. The ditch is also irregular—in sections scarcely exceeding a large plough furrow in depth and width. In fact, the work seems imperfect, and to have been constructed in haste for temporary purposes. Within the area, which is quite uneven, are several small accumulations of stones, which bear the marks of fire. Upon removing some of them, the proprietor of the ground found ashes and other burnt matter, among which was a carbonized ear of maize. A small but entire vessel of pottery, of considerable symmetry of shape, was also found here some years ago.

Human bones have been discovered beneath the leaves; and in nearly every part of the trench skeletons of adults of both sexes, of children and infants, have been found, covered only by the vegetable accumulations. They seem to have been thrown together promiscuously. They have also been found in a nar-

row depression resembling an artificial trench, indicated by a dotted line in the plan, and caused by the subsidence of the earth in a cleft of the limestone substratum. These skeletons, from all accounts, do not seem to have been much decayed, and no difficulty was experienced in recovering them entire. The skulls were in some cases fractured, as if by a blow from a hatchet or club. These circumstances would seem to imply, not only that the work is of comparatively late construction, but also that this was the scene of one of those indiscriminate massacres so common in the history of savage warfare.

From the bank of the terrace, near this work, a very extensive and beautiful prospect is commanded.

PLATE III. No. 3.

*Ancient Work, half a mile west of Lockport, Jefferson County,
New York.*

THE remaining works of Jefferson county, so far as investigated, are situated on lower grounds, generally near streams, which are made subservient to art for purposes of defence. The work here presented is a good example. It is situated on Black River (*Kā-me-hārgo*), in Le Ray township, half a mile below the little manufacturing town of Lockport. The banks of the river are here very high, and quite inaccessible. The character of the work is well shown in the engraving, and needs little explanation beyond what that affords. It will be seen that the ends of the embankment extend for a short distance down the slope of the river bank, and then curve slightly inwards, as though designed to prevent the flanks being turned by an enemy. The lines, where they cross the road, and between the road and the river, are very distinct, and the embankment is between three and four feet in height. The rest of the work may be traced without much difficulty, although it

has long been under cultivation. Upon the wall, at the point indicated by the letter *c*, is still standing a pine stump, upwards of three feet in diameter, probably having an age of not less than four hundred years. The usual relics are found within the area of the inclosure; and in the natural bank at *d*, a number of skeletons have been disclosed by the plough. They are much decayed, but in respect of position correspond with those found elsewhere in Indian cemeteries.

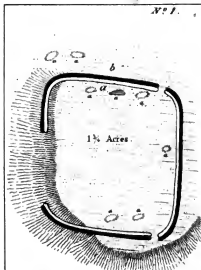
PLATE IV. No. 1.

Ancient Work, Le Ray Township, six miles northeast of Watertown.

IN the same township with the foregoing work, and about four miles distant, in a northwest direction, is the work here represented. It occupies a small sandy elevation, situated in the midst of low grounds. It is lozenge-shaped, and is the most regular of any ancient structure which has fallen under the notice of the author in the State. Where the lines are interrupted on the north, the ground is considerably elevated, and subsides abruptly, precluding the necessity of an embankment for defensive purposes. The sites of the ancient lodges, indicated by heaps of burned stones, calcined shells, fragments of pottery, etc., are yet to be traced, notwithstanding that the land has been for a considerable time under cultivation. Near this work skeletons have been frequently exhumed.

PLATE IV.

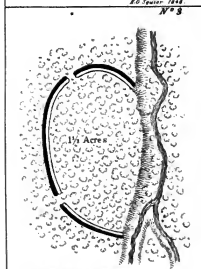
N^o 1.



ANCIENT WORK,
LE RAY TP. JEFFERSON C^o N.Y.
6 Miles N.E. of Watertown.

E. G. Squier 1848

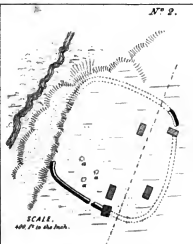
N^o 3



ANCIENT WORK,
N PART OF ELLISBURGH TP. JEFFERSON C^o N.Y.
3 Miles N.W. of Parramont Manor.

E. G. Squier 1848

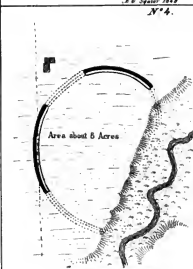
N^o 2.



ANCIENT WORK,
LE RAY TP. JEFFERSON C^o N.Y.
near
Sandford's Corner

E. G. Squier 1848

N^o 4.



ANCIENT WORK,
ELLISBURGH TP. JEFFERSON C^o N.Y.
2 1/2 Miles N.W. of Parramont's.

E. G. Squier 1848

Gift of Squier & Meigs, deposited by Mr.



PLATE IV. No. 2.

Ancient Work, Le Ray Township, Jefferson County, New York.

THREE miles to the westward of the inclosure last described, near "Sandford's Corners," was formerly another work of similar character, but larger size. Only a small portion of the embankment is yet visible; the dotted lines, however, show the original outlines, according to the recollection of those who were acquainted with the work before it was disturbed. The walls were then not less than six feet in height, measuring from the bottom of the trench.

Within the area are found great numbers of the shells of the fresh-water molluscas, accumulations of burnt matter, quantities of pottery in fragments, with broken pipes, etc. Some of the pipes are of good workmanship and fine finish. In this vicinity, also, have skeletons been found; all buried in a sitting posture.

Several other works formerly existed in this township, but they have been either entirely or in great part obliterated. One is spoken of near Felt's Mills, but no opportunity was afforded of examining it.

PLATE IV. NOS. 3 AND 4.

Ancient Works in Ellisburgh Township, Jefferson County, New York.

A NUMBER of ancient works formerly existed in Ellisburgh, one of the southern towns of the county. Plate IV., No. 3, is one of those which are yet perfect. It presents no novel features; is protected in the usual manner, and has the usual relics and traces of occupancy within its walls. Three quarters of a mile to the eastward is another similar, but larger work (Plate IV.,

No. 4), which has been very nearly obliterated by the plough. The sections indicated in the engraving are yet quite distinct; nor can the parts supplied differ very materially from the original lines. Perhaps no work in the State has more decided evidences of aboriginal occupation. The entire area is covered with traces of ancient habitations, and with relics of art—pottery, ornaments, and implements. Exterior to the walls, in all directions, but particularly on the level grounds between the two works, the same indications are abundant. Indeed, the artificial accumulations are so great as materially to augment the fertility of the soil. *Caches* have been observed here, in some of which the present proprietor of the grounds has found a number of hushels of parched corn, carbonized by long exposure. It is scattered over the surface, and after rains may be collected in considerable quantities. Here, too, have been found skeletons buried according to the usual custom.

The aboriginal population must have been very large at this spot, which, both in respect of soil and the close proximity of springs and pure streams, affords a most beautiful site for an Indian village.

About a mile to the southward of this group, upon the land of Mr. Mendall, was another work, of which no trace now remains. Another occurred at a place called Clark's Settlement, still another at Ellis' Settlement, and others in various parts of the township, concerning which no definite information can now be obtained.

Near the neat and pretty village of Pierrepont's Manor, is also the site of an ancient town, undistinguishable from the fortified village already described, except by the absence of an embankment and trench. Large quantities of relics have been recovered here. A work of considerable size was visible until within a few years, half or three fourths of a mile northwest of the village of Adams, on the lands of Mr. W. Benton. It is described by Mr. Justus Eddy, in a letter to the author, as having been semicircular in form, five hundred feet in diameter,

and the open segment facing or rather opening toward a marshy piece of ground, through which flowed a small stream. There were two or three breaks, or passage-ways, in the embankments. At the time of the settlement of this part of the country by the whites, about fifty years ago, trees two and three feet in diameter were growing upon the wall, and within the area. The embankment was then between three and four feet in height. Within the work were found quantities of pottery, pipes, and beads, covered with ornamental figures. A star-shaped silver ornament, bearing the initials P. H., was also found. It was quite thin, not exceeding the common sixpence in thickness.

Upon an island, outside of Sackett's Harbor, known as Snow-shoe Island, it is said, there are traces of an ancient work. So far as could be gathered, it had been a palisaded structure, unaccompanied by an embankment.

Besides the various earth-works above described, there are a number of other interesting objects of antiquarian interest in this county. Among them may be mentioned the "*bone-pits*," or-deposits of human bones. One is found near the village of Brownsville, on Black River. It is described as a pit, ten or twelve feet square, by perhaps four feet deep, in which are promiscuously heaped together a large number of human skeletons. It will be seen, ultimately, that these accumulations owe their origin to a remarkable custom, common to many of the Indian tribes, of collecting and depositing together the bones of their dead, at stated intervals. Another pit, very unlike this, however, exists about three miles east of Watertown. It is situated upon the slope of a hill, and was originally marked by a number of large stones heaped over it. Upon removing these and excavating beneath them, a pit about six feet square, and four deep, was discovered, filled with human bones, all well preserved, but in fragments. Upwards of *forty* pairs of the *patella* were counted, showing that at least that number of skeletons had been deposited in the pit. It is said that the

bones, when first exhumed, exhibited marks such as would result from the gnawing of wild animals; and from this circumstance, and the fact that they were so much broken up, it has been very plausibly supposed that these are the bones of some party, which had been cut off by enemies, and whose remains were subsequently collected and buried by their friends. All the bones are those of adults. Many of the fragments have been removed and scattered, but several bushels yet remain. No relics of any kind were found with them.

A large mound is said to occur "about one mile from Washingtonville, and eleven from Adams, on a cross-road from the 'ridge road,' leading from Lamb's tavern to Washingtonville. It is conical in shape, and thirty feet high." It is questionable whether this is artificial.

OSWEGO COUNTY.

A GREAT part of this county is low and wet, and it is not generally so well adapted to sustain an aboriginal population as the adjoining counties of Jefferson and Onondaga. Few ancient monuments occur within its limits; and concerning these, little was ascertained in the course of these investigations. The following facts were chiefly derived from J. V. H. Clark, Esq., of Manlius, Onondaga county, whose attention was especially called thereto in the preparation of his forthcoming History of the Onondaga and Oswego Country. Two inclosures, elliptical in form, existed in Granby township, in the southern part of the county. One of these occurred on State's Hundred, lot 24. Each contained about two acres, and both had gateways opening to the east. The ditch, in each case, was exterior to the walls. Another formerly existed near

Phillipsville, of which no traces now remain; and still another is said to occur in Granby township, near "Little Utica," in a bend of Ox Creek. Near the town of Fulton, on the west side of Oswego River, is an eminence called "*Bone Hill*," in which have been found great numbers of human bones promiscuously heaped together. They are much decayed. Intermixed with them were discovered a number of flint arrow-heads. It is probable that none of these remains possessed features differing essentially from those of other parts of the State.

ONONDAGA COUNTY.

PROBABLY no county in the State had originally a greater number of aboriginal monuments within its boundaries, than the county of Onondaga. It has, however, been so long settled, and so generally brought under cultivation, that nearly all vestiges of its ancient remains have disappeared. The sites of many are, however, still remembered; but even these will soon be forgotten. It is a fortunate circumstance that the antiquities of this county were the first to attract the attention of observers, and our accounts relating to them are more complete than concerning those of the other parts of the State. Our principal source of information respecting their numbers, localities, and character, is the memoir of De Witt Clinton, already several times alluded to. Mr. Schoolcraft and Mr. J. V. H. Clark, of Manlius, have presented additional information; and from these authorities we derive most of the facts and illustrations which follow.

Ancient works occurred in the towns of Fabius, De Witt, Lafayette, Camillus, Onondaga, Manlius, Elbridge, and Pompey; but of many of them we know nothing beyond the simple

fact of their former existence. It should be mentioned that some of the townships here named have been erected within the last few years, and since the date of Mr. Clinton's Memoir.

Those in Elbridge, according to Mr. Clinton, occurred near the village of that name, about four miles from Seneca River, upon lands then (1817) occupied by Judge Munro. They were two in number. "One was on a very high hill, and covered three acres. It had a gateway opening toward the east; and upon the west was another, communicating with a spring about ten rods from the fort. It was elliptical in shape: the ditch deep, and the eastern wall eight feet high. The stump of a black-oak tree, certainly one hundred years old, stood upon the embankment. The second work was about half a mile distant, upon lower grounds. It was constructed like the first, but was only half as large. * * * * The early settlers observed, in this vicinity, the shells of testaceous animals accumulated, in several places, in considerable masses, together with numerous fragments of pottery. Judge Munro found, in digging the cellar of his house, several pieces of burned clay; and, in various places, large spots of deep black mould, demonstrating the former existence of buildings or erections of some kind. At one place he observed what appeared to be a well, viz., a hole ten feet deep, and the earth much caved in. Upon digging to the depth of three and a half feet, he came to a quantity of flints, below which he found a great number of human bones." This disposition of the dead, Mr. Clinton conjectures, was made by an enemy; but we shall soon see that it probably owed its existence to the practice of gathering the bones of the dead at stated intervals, and depositing them in pits—a practice common among the Hurons and other Indians around the great lakes.

Mr. Clark has described some aboriginal remains in this township, which are probably the same ones alluded to by Mr. Clinton. He says: "Upon lot 81, N. E. part, on lands now

occupied by Mr. John Munro (previously the Judge Munro farm) was formerly a fort situated on high ground. In 1793 the ditch and embankment were easily to be traced. Large trees stood upon the wall and in the ditch. The work was square, except that the line of embankment toward the west curved slightly outward. The area was about an acre and a quarter. The walls were about two feet high; the gateway opened toward the west, and was twelve feet wide. It was situated on a beautiful eminence, nearly surrounded by ravines."

"About half a mile N. W. of this work," continues Mr. Clark, "on what is called the Purdy lot, was another work of larger dimensions, containing about four and a half acres of ground. It is situated upon one of the most considerable elevations of the town, and is nearly or quite square, with gateways opening to the east and west. The embankment was originally about three feet high, and an oak tree, two feet in diameter, was standing upon it. On the south side were numerous holes, about two feet deep and six feet apart. Large quantities of broken pottery and fresh water shells are still found here. An oaken chest was discovered here, somewhere about the year 1800, which contained a quantity of silk goods. The folds and colors were easily distinguishable, but the fabric crumbled on exposure. Some copper coins, it is said, were found with the silks.

"On lot 84, on the farm now owned by Mr. Caleb Brown, about forty rods south of the road, was formerly a circular work, of upwards of three acres' area. The embankment was about two feet high, the ditch exterior and four or five feet deep. There was a wide gateway upon the west side, and a smaller one on the northeast, opening toward a spring, some rods distant. In digging near the western gateway, fragments of timber, bearing marks of edge tools, were found; and in an excavation called a well, fourteen feet deep, a quantity of charred Indian corn was discovered. Upon the site of Mr. Brown's house and garden, was also an ancient circular work, inclosing about an

acre of ground. Within it were cinders, charcoal, etc., as if it had been the site of a blacksmith's shop."

"In the town of Pompey," continues Mr. Clinton, "is the highest ground in the county, separating the waters flowing into the Chesapeake and the Gulf of St. Lawrence. The most elevated portions of the town exhibit the remains of ancient settlements, and in various places the traces of a numerous population appear. About two miles south from Manlius Square, in this township, I examined the remains of a large town, which were obviously indicated by large spots of black mould, at intervals of a few paces asunder, in which I observed bones of animals, ashes, carbonized grains of corn, etc.—denoting the residence of human beings. This town must have extended at least half a mile from east to west, and three quarters of a mile from north to south. On the east side of this old town there is a perpendicular descent of one hundred feet, into a deep ravine, through which flows a fine stream of water. Upon the north side is a similar ravine. Here there are graves, on each side of the ravine, close to the precipice. Some of the graves contain five or six skeletons, promiscuously thrown together. On the south bank of the ravine, gun-barrels, bullets, pieces of lead, and a skull perforated by a bullet have been found. Indeed, relics of this kind are scattered all over these grounds. A mile to the eastward of this town, there is a cemetery, containing three or four acres; and to the westward of it is still another.

"There are, in this vicinity, three old forts, placed in a triangular position, and within eight miles of each other. One is about a mile south of Jamesville [in the present town of De Witt], the second in a northeastern, and the third in a south-eastern direction. They are circular or elliptical in form; bones are found scattered over their areas; and standing on a heap of mouldering ashes, within one of them, I saw a white pine-tree, eight and a half feet in circumference, and at least one hundred and thirty years old."

Mr. Clinton expresses the opinion that the three "forts" were designed to protect the "town," the vestiges of which attracted his attention; and he even goes so far as to conjecture, from the occurrence of bones upon the brows of the northern ravine, that the attack by which the town was destroyed was made from this direction! Of course this is wholly supposititious. The relics of European art, scattered over the site, show clearly enough that this was an Indian village, occupied by the savages subsequent to the commencement of intercourse with the whites. The traces which Mr. Clinton describes are precisely those which mark the site of every abandoned Indian settlement throughout the country. This county possessed a very heavy aboriginal population; probably greater than any equal extent of territory north of the Floridas; and it is not surprising, therefore, that the traces of ancient occupancy are so abundant.* Mr. Clinton states that it was estimated there were not less than eighty cemeteries in Pompey township alone. McCauley states that one of the three works, mentioned above by Mr. Clinton, was triangular in form, and contained about six acres.

Mr. J. V. H. Clark has described a work situated in part of lot 33 in this township; but whether or not it is one of the three mentioned by Mr. Clinton, it is impossible to determine. "It is about four miles southeast from Manlius village, situated on a slight eminence, which is nearly surrounded by a deep ravine, the banks of which are quite steep and somewhat rocky. The

* Mr. Schoolcraft states, on the authority of Le Fort, late chief of the Onondagas, that Ondliaka, the great chronicler of his tribe, informed him, on his last journey to Oneida, that in ancient times, before they had fixed their settlements at Onondaga, and before the Five Nations were confederated, the Onondagas lived below Jamesville and in Pompey; that in consequence of continued warfare with other tribes, they removed their villages frequently; and that, after the confederation, their fortifications being no longer necessary, they were allowed to fall into decay. This, he believed, was the origin of the ancient works at these points.—*Notes on the Iroquois*, p. 442.

ravine is in shape somewhat like an ox-bow, made by two streams which pass nearly around and then unite. Across this isthmus of this peninsula, if we may so call it, was a wall of earth running from northeast to southwest. When first discovered by the early settlers, the embankment was straight, four or five feet high, with an exterior ditch from two to three feet deep. The area thus inclosed is from ten to twelve acres. A portion of the area was free from trees, and was called the *Prairie*, and is still noted among the old men as the spot where the first battalion military training was held in the county of Onondaga. But that portion of the work near the wall has recently been cleared of a heavy growth of black-oak timber. Many of the trees were large, and probably one hundred and fifty or two hundred years old. Some were standing in the ditch, and others on the embankment. The plough has defaced the lines to a considerable degree, but they may still be traced the whole extent. Within the inclosure there is a burial-place. Here, too, are to be found numerous fragments of dark-brown pottery, of coarse material."

Mr. Clark mentions that a great number of rude relics have been discovered here. Among other things found in the vicinity were some small three-pound cannon balls. There is a large rock in the ravine on the south, on which the following characters are inscribed, viz.: IIIIX. They are cut nine inches long, three-quarters of an inch deep, and the same in width, and are perfectly regular.

Mr. Clark describes another ancient work "situated on a hill, about a mile and a half south of Delphi in this township, on lot No. 100. It has an area of about eight acres, and occupies an elevated piece of ground, surrounded by a ravine made by two small streams which pass around it and unite on the north. It had a large gateway upon the north and a smaller one on the south. Before the first was a kind of mound. The defences

* Schoolcraft's Notes on the Iroquois, p. 469.

consisted of a ditch and pickets. At every place where a picket stood, a slight depression is still distinctly visible. In one corner were evident marks of a blacksmith's shop, including various smith's tools, a bed of cinders, and a deposit of charcoal. Beneath one of these piles was found, *en cache*, a quantity of charred Indian corn, and squash, and pumpkin seeds. A short distance to the south of the work is an extensive cemetery, in which the bodies were buried in rows." Quantities of the implements and

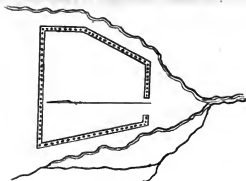


FIG. 2.

trinkets introduced among the Indians, at the period of the first European intercourse, are found with the skeletons. The palisades were set in the bottom of the ditch, which, when first known, was six feet deep. About a mile west from this, are the remains of another work of similar character; and about a mile north of Delphi, on a farm owned by a Mr. Sheldon, is still another. Around a number of these works, the corn hills of the Indians could be traced for a long period after the occupation of the country by the whites. Medals, crosses, gun-barrels, knives, axes—in short, every variety of articles introduced by the Europeans after the discovery, are to be found here in abundance.

Perhaps the most interesting work, of which any traces yet

remain in Pompey township, is the one of which Mr. Clark gives the accompanying plan, and which occurs on lot No. 3, on land owned by Mr. Isaac Keeler.

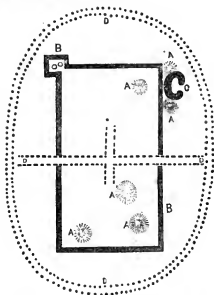


FIG. 3.

B, parapet—A, mounds—C, look out—D, palisades.

Mr. Clark describes this work as follows: "It had been inclosed with palisades of cedar, and contained some ten acres of ground. The plan was a parallelogram, divided by two rows of palisades, running east and west, and crossing in the center. The space between the rows was about twelve feet. At the N. W. corner was an isolated bastion and an embrasure. At the period of the first cultivation of the land, many stumps of the palisades, which had been burned off even with the ground, were ploughed up. Within the southern division of the fort were several mounds; the principal one of which was four feet high,

rising on a base of about fifteen feet in diameter, composed chiefly of ashes, in which were found many beads of the size of bullets, and a great variety of trinkets made of red pipe stone. Several hundred pounds of old iron, consisting of axes, gun-barrels, files, knives, etc., etc., were also found in the same place. The smaller mounds contained charred corn, many bushels of

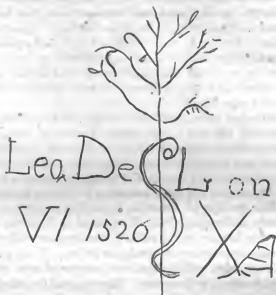


FIG. 4. (See next page.)

which were ploughed up. At a distance of about thirty rods north of the work was a ditch, nearly forty rods long, and varying from three to six feet in depth. It seems to have been entirely disconnected from the work in question. The situation of this ancient fort is on an elevation of land rising gradually for about a mile in every direction; and, at the time of its occupancy, several hundred acres of land must have been cleared

around it. Fragments of pottery, pipes, flint arrow-heads, stone hatchets, etc., etc., are abundantly found on this spot. In many places both within and exterior to the work, were found pits for hiding corn and other articles, *en cache*." Some small mounds containing human bones, are found on the lands of Mr. S. A. Keene, in this vicinity.

A relic of some interest, and which has given rise to no inconsiderable speculation is a stone bearing an inscription, found in this township in 1820, by Mr. Philo Cleveland. It is about fourteen inches long by twelve broad and eight thick, granitic, and bearing upon one side a rude representation of a tree entwined by an equally rude representation of a serpent, with some letters and a date, as shown in the cut inserted on the preceding page, Fig. 4.

There seems to be little doubt that the stone was found as represented, and that it is a genuine remnant of antiquity. Some have supposed that it attests that Ponce de Leon, Narvaez, or some other Spanish adventurer, penetrated thus far to the northward, during the period of Spanish adventure in Florida. The stone is now in the museum of the Albany Institute.

Within two miles of Jamesville, in De Witt township, upon the banks of Butternut Creek, there existed until recently the traces of an inclosure or fort, and in the vicinity many evidences of comparatively late occupation by the Indians. The fort had been rectangular, with bastions, and constructed with cedar pickets, firmly set in the ground. The stumps of the palisades were struck by the plough when the land was first cultivated. It appeared that the cabins which it had inclosed had been arranged with regularity—a practice not common among the Indians before intercourse with the whites. In the year 1810 an oak was felled near this fort, in cutting which a leaden bullet was found imbedded in the wood. One hundred and forty-three cortical layers were counted above it. It must, therefore, have been fired in 1667. Fire-arms were introduced among the Iroquois, by the French, as early as 1609—the date of Hud-

son's exploration of the river bearing his name. Brass crucifixes, medals of silver and other metals, dial-plates, and articles of iron, are of frequent occurrence here, mingled with stone axes, and implements and ornaments of bone, shell, and clay, the relics of an earlier period. Among other articles of European origin, a cross of pure gold was found some years ago, bearing the sacred monogram I. H. S. Not far from this spot are two high hills of great regularity, sometimes called mounds, the surfaces of which are covered with pits, which Mr. Schoolcraft conjectures were *caches*.

Some investigators are of opinion that Champlain penetrated into this country in 1615. The reasons in support of this opinion are forcibly put forward by Mr. O. H. Marshall, of Buffalo, in a paper published in the Bulletin of the New York Historical Society, for March, 1849. From this paper the subjoined account of the Indian fort attacked by Champlain is extracted. It throws light upon the modes of defence common to the Indians at that period, besides being of interest in several other particulars. Says Champlain:

"On the 10th of October, at 3 P. M., we arrived before the fort of the enemy. Some skirmishing ensued among the Indians, which frustrated our design of not discovering ourselves until the next morning. The impatience of our savages, and the desire they had of witnessing the effects of our fire-arms on the enemy, did not suffer them to wait. When I approached with my little detachment, we showed them what they had never before seen or heard. As soon as they saw us, and heard the balls whistling about their ears, they retired quietly into the fort, carrying with them their killed and wounded. We also fell back upon the main body, having five or six wounded, one of whom died."

"The Indians now retired out of sight of the fort, and refused to listen to the advice of Champlain as to the best mode of conducting the siege. He continued to aid them with his men, and, in imitation of the more ancient mode of warfare, planned

a kind of movable tower, sufficiently high when advanced to the fort to overlook the palisades. It was constructed of pieces of wood placed one upon another, and was finished in one night.

"The village," says Champlain, "was inclosed by four rows of large interlaced palisades, thirty feet high, near a body of unfailing water. Along these palisades the Iroquois had placed conductors to convey water to the outside, to extinguish fire. Galleries were constructed inside of the palisades, protected by a ball-proof parapet of wood, garnished with double pieces of wood.

"When the tower was finished, two hundred of the strongest men advanced it near to the palisades. I stationed four marksmen on its top, who were well protected from the stones and arrows which were discharged by the enemy."

"The French soon drove the Iroquois from the galleries; but the undisciplined Hurons, instead of setting fire to the palisades, as directed by Champlain, consumed the time in shouting at the enemy, and discharging harmless showers of arrows into the fort. Without discipline, and impatient of restraint, each one acted as his fancy pleased him. They placed the fire on the wrong side of the fort, so that it had no effect.

"When the fire had gone out, they began to pile wood against the palisades, but in such small quantities that it made no impression. The confusion was so great that nothing could be heard. I called out to them, and pointed out, as well as I could, the danger they incurred by their imprudent management; but they heard nothing by reason of the great noise which they made. Perceiving that I should break my head in calling, that my remonstrances were in vain, and that there were no means of remedying the disorder, I resolved to effect, with my own people, what could be done, and to fire upon those we could discover.

"In the mean time, the enemy profited by our disorder. They brought and threw water in such abundance, that it poured in streams from the conductors, and extinguished the

fire in a very short time. They continued, without cessation, to discharge flights of arrows, which fell on us like hail. Those who were on the tower killed and wounded a great number.

"The battle lasted about three hours. Two of our chiefs, some head-men, and about fifteen others were wounded."

Mr. Marshall is of the opinion that this fort was situated upon the shores of Onondaga Lake. He arrives at this conclusion from an analysis of the courses and distances traveled by Champlain, the streams which he crossed, etc., and continues:

"Another circumstance to aid us in the location, is the description given by Champlain of the fort itself. 'It was situated,' says he, 'on the borders of an unfailing body of water.' This he calls '*Etang*,' a word generally applied to an artificial pond, but sometimes used for a small lake or other natural collection of water. There is nothing that will answer the terms of the description in so many particulars, as the shore of Onondaga Lake; and it is quite probable that it is there we must look for the location of the fort which was invested by the invaders.

"Three miles southeast of its outlet, on the northern bank of the lake, and near the present village of Liverpool, an ancient Indian work was discovered by the early settlers, which may have been the site of the fortification in question. There is reason to believe that the same locality was occupied by Monsieur Dupuis and the Jesuits, when they established themselves among the Onondagas in 1656.

"Mr. Clark, of Manlius, thinks that the Count de Frontenac occupied this position when he invaded the Onondaga country, in 1696, and that Col. Van Schaick encamped there while on his expedition against the Onondagas, in 1779."

In the account of Frontenac's Expedition, contained in Vol. V, of the Paris Documents, now deposited in the office of the Secretary of State of New York, it is stated that the principal fort of the Onondagas was burned by the Indians upon the approach of the French army. The terms of the account are as follows:—"The cabins of the Indians and the triple pali-

sade which encircled their fort were found entirely burnt. It was an oblong flanked by four regular bastions. The two rows of pickets, which touched each other, were of the thickness of an ordinary mast; and at six feet distance outside stood another palisade of much smaller dimensions, but from forty to fifty feet high." This account also states that the invaders were successful in discovering almost all of the *caches* in which the Indians had deposited their corn.*

In his recently published work, Mr. Clark presents a plan of a stockade work, surveyed by Judgo Geddes, and probably the very one referred to by Mr. Marshall.

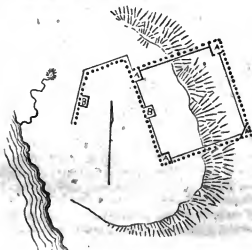


FIG 5.

It is situated on the shores of Onondaga Lake, between Brown's pump-works and Liverpool. A fine spring of water rises near it, and quantities of relics, of various kinds, have been found within it.

* Documentary History of New York, Vol. I., p. 332.

MADISON COUNTY.

On the site of the village of Cazenovia, situated in the township of the same name, which adjoins Pompey, Onondaga county, on the east, it is said an ancient earth-work once existed. No vestige of it now remains. By some it was represented to be circular, by others rectangular. Many rude relics have been found here.

There are yet traces of an old palisaded work in the township of Cazenovia, about two miles north of Delphi, of which Mr. Clark, in his "History of Onondaga county," gives the following plan.

It will be observed that it essentially corresponds with those in Onondaga county, already described. It has an area of about five acres, and numerous graves of the Indians are to be found both within and without the walls, in the vicinity.

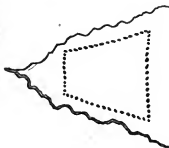


FIG. 6.

In the town of Lenox there were still visible, in 1812, the traces of a work of more modern date. It occupied a position corresponding with most of the defensive structures of the aborigines, at the junction of two deep ravines, the precipitous banks of which not only afforded protection, but precluded the necessity, in great part, of artificial defences. Within the point thus cut off and defended, there is a small eminence, in which there are a number of excavations, containing traces of decayed wood.

It may be suggested (though, not knowing their dimensions, the suggestion may be absurd) that the pits were originally do-

signed for *caches*. Mr. Schoolcraft supposes that this work was erected by the French—a supposition which finds support in the regular form of the palisaded outlines, and the circumstance that the ground within and around the work has not yet returned to a forest state.

OTSEGO COUNTY.

It is stated, upon very good authority, that an ancient circular earth-work once existed near Unadilla, in this county. Nothing is known concerning it, further than that it was situated on low ground.

CHENANGO COUNTY.

THERE was formerly an ancient inclosure, of small size, within the limits of the village of Oxford, in the township of that name, on the banks of the Chenango River. It is described by Clinton as occupying a small eminence, three or four acres in extent, which rises abruptly from the flats bordering the river. At the base of this eminence, upon the western side, flows the stream, and here the descent is precipitous. A line of embankment and a trench extended in a semicircular form from this bank, leaving narrow interruptions at the ends, for ingress and egress. The area thus inclosed was about three fourths of an acre. At the period of the first settlement, it was covered with a dense forest; yet, says Mr. Clinton, “the outline of the work could be distinctly traced among the trees, and the elevation from the bottom of the trench to the top of the embankment was about four feet. The stump of a decayed

pine which stood upon the wall exhibited one hundred and ninety-five cortical layers, and there were many more which could not be counted, as the heart of the tree alone remained. Probably the tree was three or four hundred years old—certainly more than two hundred. It probably stood many years after it had completed its growth, and it is reasonable to suppose that some time elapsed from the period of the construction of the work to the commencement of the growth of the tree.

“Probably the work was encircled with palisades, but no traces of the wood were discoverable. The situation was very eligible, elevated, commanding a fine prospect, and having no eminence near from which it could be commanded. No implements or utensils have been found, except some fragments of coarse pottery, roughly ornamented. The Indians have a tradition that the family of the Antones, which is supposed to belong to the Tuscarora nation, is the seventh generation from the inhabitants of this fort; but of its origin they know nothing.

“There is also a place at Norwich in this county, on a high bank of the river, called ‘the Castle,’ where the Indians lived at the period of our settlement of the country, and where some vestiges of a fortification appear, but in all probability of much more modern date than those at Oxford.”

In Greene township, about two miles below the village, was formerly a mound of some interest. It was situated about thirty rods back from the bank of the Chenango River, and was originally about six feet in height and forty in diameter. “Until within a few years a large pine stump stood on its top, and a variety of trees covered it when first discovered. One of these showed two hundred consecutive growths. An examination of the mound was made in 1829 by excavation. Great numbers of human bones were found; and beneath them, at a greater depth, others were found which had evidently been burned. No conjecture could be formed of the number of bodies deposited here. The skeletons were found lying without order, and so much decayed as to crumble on exposure. At

one point in the mound a large number, perhaps two hundred, arrow-heads were discovered, collected in a heap. They were of the usual form, and of yellow or black flint. Another pile, of sixty or more, was found in another place, in the same mound; also a silver band or ring, about two inches in diameter, wide but thin, and with what appeared to be the remains of a reed pipe within it. A number of stone gouges or chisels, of different shapes, and a piece of mica, cut in the form of a heart, the border much decayed and the laminae separated, were also discovered."*

It may be mentioned here, that the character of the lower deposit, and also some of the relics, coincide with some of those found in the mounds of the Mississippi Valley. The ancient mound-builders often burned their dead. The upper and principal collection of bones had probably a comparatively late date, as is shown by the silver bracelet, which, it is presumed, although not so expressly stated, was found with this deposit.

CAYUGA COUNTY.

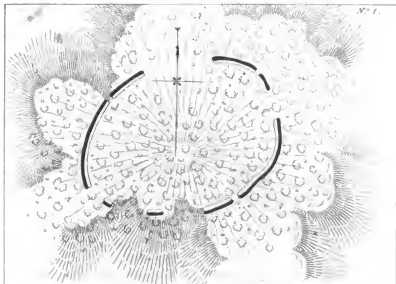
PLATE V. No. 1.

Ancient Work near Auburn, New York.

ONE of the best preserved and most interesting works in the State, is that overlooking the flourishing town of Auburn. It is situated upon a commanding eminence, which rises abruptly from the level grounds upon which the town is built, to the height of perhaps one hundred feet. It is the most elevated spot in the vicinity, and commands a wide and very beautiful prospect. The ground occupied by the work subsides gently from the centre of the area; but exterior to the walls are steep

* Annals of Binghamton.

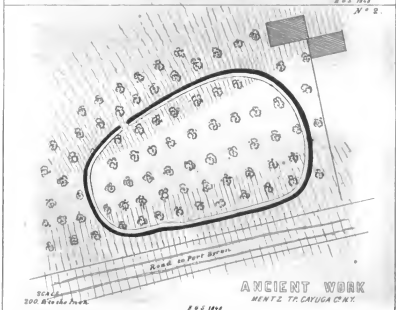
PLATE V.



SCALE
200 ft to the Inch

ANCIENT WORK
AUBURN, CAYUGA CO. NY

E. S. 1945



SCALE
200 ft to the Inch

ANCIENT WORK
MENTZ T. CAYUGA CO. NY.

E. S. 1945

CITY OF ZARDOY & MAJOR ST.

activities and deep ravines, rendering approach in nearly every direction extremely difficult. These natural features are indicated in the plan, which obviates the necessity for a detailed description. Upon the south are several deep gulleys, separated by sharp, narrow ridges, rendering ascent at this point, in the face of determined defenders, entirely impracticable. It has been conjectured by some that the walls here have been washed away; but it is clear that there was slight necessity for any defences at this point, and that none ever existed beyond what may still be traced.

The number and relative proportions of the gateways or openings are correctly shown in the plan. That upon the north is one hundred and sixty feet wide; that upon the east sixty feet, and that upon the west thirty feet. These wide, unprotected spaces would seem to conflict with the supposition, so well sustained by its remaining features, that the work had a defensive origin. It is not improbable, however, that palisades extended across these openings, as well as crowned the embankments; for without such additions, as has been already observed, the best of these structures could have afforded but very slight protection.

The embankments of this work are now between two and three feet in height, and the trenches of corresponding depth. The area of the work and the ground around it are covered with forest trees. There are several depressions, which, probably, were the *caches* of the ancient occupants.*

It is said that a number of relics have been recovered here from time to time, and among others the head of a banner-staff of thin iron, fourteen inches long and ten broad. It is, of course, of French or English origin, and was probably lost or buried here by the Indians, into whose hands, by purchase or capture,

* This work has an accidental approach to regularity; but it is far from being a true ellipsis, as has been supposed by some who have visited it.

it had fallen. We may perhaps refer it back to the days of Champlain and Frontenac, when the armies of France swept the shores of the western lakes, in the vain hope of laying the foundation of a Gallic empire in America. This relic is now in the possession of Mr. J. W. Chedell, of Auburn.

McCauley, in his History of New York, presents the subjoined facts bearing upon the question of the probable antiquity of this work, which may not be without their interest. He says: "We examined the stump of a chestnut tree in the moat, which was three feet two inches in diameter, at a point two feet and a half above the surface of the earth. A part of the trunk of the same tree was lying by the stump. As this tree had been cut down, we endeavored to ascertain its age; and for this purpose we counted the rings or concentric circles, and found them to amount to two hundred and thirty-five. The centre of the tree was hollow, or rather decayed; and estimating this part as equal to thirty more layers or growths, we calculated the entire age of the tree to be two hundred and fifty-five years. About five years had elapsed since the tree was cut down. This was in 1825, and would carry back the date of the work to 1555.

"At the distance of three paces from this stump was another of chestnut, standing in the ditch. It exceeded three feet in diameter, and the tree must have died standing, and probably remained in that position many years before it fell, from decay. In our opinion, the tree dated back as far as the discovery of the continent. Besides, it may be conjectured, for aught we know to the contrary, that several growths of forest intervened between the abandonment of this work and the date of the present forest."^{*}

About two miles northeast of the work above described, upon elevated ground, was another similar work. It is now entirely leveled, and its site can only be ascertained by the fragments

* History of New York, Vol. I., p. 112.

of pottery which are scattered over the ground. It was visible in 1825, when it was visited by McCauley, who says:

"It inclosed about two acres, and had a rampart, ditch, and gateway. It is now nearly obliterated by the plough. In its original state, or the condition it was in thirty-five years ago, about the time the land was cleared, the rampart was seven feet high, and the ditch ten feet wide and three deep. Two persons, the one standing in the ditch, and the other within the inclosure, were unable to see each other. The gateway was on the northeastern side, in the direction of a spring which flowed close by. The work was three hundred and fifty paces in circumference."

PLATE V. No. 2.

Ancient Work, Mentz Township, Cayuga County, New York.

Six miles northwest of Auburn, and three miles from Troopsville, in the township of Mentz, is the small but well preserved work of which a plan is here given. The country around is hilly, and the work itself is built upon the crest of a narrow ridge, which extends nearly north and south, and along which the main road passes. There is a hollow, with springs flowing into it, toward the left; in which direction, it will be observed, a gateway opens. Although the ground has been for many years under cultivation, the lines of embankment are still between two and three feet high. A quantity of relics, some of comparatively late date, have been found here. Some skeletons, also, have been disclosed by the plough, both within and without the walls. The plan obviates the necessity for any further description.

The existence of this work does not seem to have been hitherto known, beyond the secluded vicinity in which it occurs. It is, however, probable that it is the one alluded to by McCa-

ley in the following very indefinite terms: "On the east side of the Seneca River, near Montezuma, there are still to be seen the ruins of a small fort. A small mound occurs not far from the fort; it is artificial." Montezuma is situated in the same township with the work above described, and about four miles distant, in a northwestern direction. In the "New York Magazine," for 1792, mention is made of a couple of ancient works, said to occur south of Cross and Salt Lakes, east of the Seneca River, and falling probably within the limits of the present township of Brutus in Cayuga, or Elbridge in Onondaga county. One of these was in the "form of a parallelogram, two hundred and twenty yards long and fifty-five broad, with openings on either side, one of which led to the waters. Half a mile south was another work of crescent form; large trees were growing upon both." Quantities of well-burned pottery in fragments were found there; also a slab of stone five feet long, three and a half broad, and six inches thick, upon which were some rude tracings, specimens perhaps of the "picture writing" of the Indians.

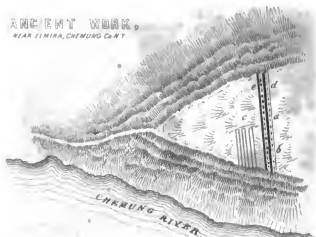
McCauley mentions an ancient work near the town of Aurora, in the southern part of this county, and near Cayuga Lake. According to this authority, it was situated "two miles from the village, in a southwesterly direction; the area triangular, and containing two acres. Two of its sides were defended by precipitous banks, and the third by an embankment and ditch. Fragments of earthen vessels and the bones of animals had been found there enveloped in beds of ashes."

There are traces of an ancient palisaded work of the Cayugas, in Ledyard township, about four miles southeast of Springport. In fact, the whole country has numerous vestiges, cemeteries, etc., of its aboriginal possessors.

PLATE VI.

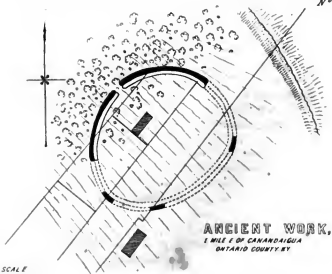
N° 1

ANCIENT WORK,
NEAR ELMIRA, CHEMUNG Co NY



F. H. Hensford del.

N° 2.



SCALE
200 ft to the Inch

ANCIENT WORK,
1 MILE E OF CANANDAIGUA
ONTARIO COUNTY NY

F. O. S. 1898

CHEMUNG COUNTY.

THERE is a work in this county which possesses peculiar interest, from the circumstance that the embankments still retain unmistakable traces of the palisades with which it was crowned, thus demonstrating the correctness of the conjectures already indulged in, as to the probable construction of the entire system of earth-works of Western New York. The accompanying plan and description are from the note-books of Prof. E. N. Horsford, of Harvard University, who visited this work in company with other gentlemen connected with the State Geological Survey, at the time that enterprise was in progress.

PLATE VI. No. 1.

Ancient Work near Elmira, Chemung County, New York.

"THIS work is situated about two and a half miles west of Elmira, upon the summit of an eminence, the base of which, upon one side, is washed by Chemung River, and upon the other by the waters of a deep and almost impassable ravine. It is, in fact, a bold headland. The approach is by a narrow path, which in some places will admit of the passage of a single person only, and which traverses the very abrupt crown of the ridge. Toward the top, the ascent is more gradual, and the ground continues to ascend slightly until we reach the defences. The site chosen exhibits the strongest proof of design, being such as to command a most extensive view along the course of the river, and being, except from behind, accessible only by the difficult pathway already mentioned.

"The artificial defences consist of an embankment, with an outer ditch, which extends, as shown in the plan, from the steep

bank toward the river, to the brow of the ravine upon the other side. This embankment is about two hundred feet long, fourteen feet broad at the base, and about three and a half feet high. The rotting stump of an old pine tree, three feet in diameter, and a yellow pine tree, nine feet in circumference, are standing upon the wall, and indicate its high antiquity.

"What appeared to be a furrow was observed extending along the summit of the embankment throughout its entire length. Upon examination, it was found that this appearance was produced by a succession of *holes*, about a foot in depth. Just within this chain of holes is another parallel chain, not quite so distinct as the first. Still further inward, and extending but part of the way across the area of the work, are several parallel furrows, without accompanying ridges, the design of which is hardly apparent.

It will be seen that this work corresponds entirely in position with most of the earth-works of the State, was chosen with reference to the same principles, and was defended in precisely the same manner. It is peculiar in still retaining the holes left by the decay of the palisades, which show that it was strengthened by a double line. It is rational to conclude, upon general principles, that all the works of the State were protected in like manner; although, except in this instance, all traces of the wooden superstructure have disappeared. As already observed, this work, for the positive light which it throws upon the original character of these ancient defences, is probably the most interesting one in the State.

ONTARIO COUNTY.

PLATE VI. No. 2.

Ancient Work near Canandaigua.

ONE mile east of the town of Canandaigua, upon the slope of a hill overlooking Canandaigua Lake, is the work here figured. It is unsurpassed for the beauty of its position. A considerable portion of the embankment has been obliterated by cultivation, and another portion by the turnpike road, from Canandaigua to Geneva, which passes through it. The parts which may yet be traced are appropriately indicated in the plan, and enable us to make out the original form of the work with sufficient exactness. In constructing the road, human bones in considerable quantities were disclosed on the brow of the hill, accompanied by the usual rude relics of Indian art. It is mentioned by Mr. Schoolcraft, that the Senecas deduce their descent from the remarkable eminence upon which this work is situated.*

Between three and four miles west of Canandaigua, on the road to Victor, there is a long, narrow trench running nearly in a direction from N. E. to S. W. It may be traced, with occasional interruptions, for some miles, and has been erroneously, but very generally, believed to be a work of art. It marks the line of a long, narrow fissure in the limestone substratum, into which the earth has subsided. The water which accumulates in it sinks, to swell the volume of some subterraneous stream. The cause of this singular fissure is worthy of the inquiries of geologists.

Judge Porter, of Niagara, mentions another ancient inclosure, similar to that above described, in the vicinity of Canandaigua; but its locality could not be ascertained. It is probably now completely destroyed.

* Notes on the Iroquois, p. 196.

PLATE VII. No. 1.

Ancient Work near the City of Geneva.

ONE and a half miles west of Geneva are the traces of the old Indian "Castle" of *Ganundesaga*, built by the Senecas, and destroyed by Sullivan in 1779. Near it is a mound thickly covered over with graves. A plan and description of this work will be given in another connection. About two miles beyond, in the same direction, in Seneca township, is another work of more ancient date, a plan of which is here presented. It is situated upon elevated grounds, and coincides generally with those already described. The position, upon the east side, is protected by a steep, natural bank, perhaps sixty feet in height, which subsides into low, marshy grounds. At the foot of the bank is a copious and perennial spring. Upon the west, south, and north, the ground falls off gently; and here we find the artificial defences. Although the whole has been for some time under cultivation, the lines of entrenchment may be followed throughout nearly their entire extent, without difficulty. The usual evidences of ancient occupancy are found within the area.

Half a mile further to the westward, upon a corresponding site, are the traces of an ancient palisaded work, which will be described in its appropriate place.

MONROE COUNTY.

A NUMBER of aboriginal monuments formerly existed in this county; but, with the exception of a few small mounds, they have been wholly obliterated, or so much defaced that they can no longer be made out. Two mounds occupy the high, sandy grounds to the westward of Irondequoit Bay, where it con-

PLATE VII.

N^o 1

Low Ground

From Castle St. Road to Vienna

ANCIENT WORK,
(30 M N W. of Geneva)
ONTARIO CANA

SCALE
400 ft to the Inch

E. G. Squire 1848

N^o 2.

N^o 3.

Irondequoit Bay

Mound

Mill Pond on Irondequoit Creek

Mound
10 ft high
35 ft base



nects with Lake Ontario. The point is a remarkable one. The position of the mounds in respect to the natural features around them is indicated in the accompanying sketch, Plate VII, No. 2.

They are small, the largest not exceeding five feet in height. It was found, upon excavation, that they had been previously disturbed; and their examination proved fruitless. Some bits of charcoal and a few small fragments of bones were observed mingled with the sand. At various places, upon the elevations around them, were scattered fragments of pottery, and arrow-heads and other rude relics are also of frequent occurrence here.

The spot was evidently a favorite one with the Indians, the vicinity abounding in fish and game.

The waves of the lake have thrown up a narrow bar or bank of sand, called the "*Spit*," which extends nearly across the mouth of the bay, leaving but a small opening. Upon this bar a few scattered trees are standing, and it was here that the Marquis De Nonville landed with his troops, at the time of his expedition against the Senecas, in 1687. He constructed a stockade at or near this point.

Upon the eastern shore of the bay, and occupying a position corresponding with that of the mounds already described, it is said there is another mound of considerable size. It was opened many years ago, and was found to contain human bones.

Some eight or ten miles to the southeast, and half a mile east of the village of Penfield, on the banks of Irondequoit Creek, is still another mound, situated upon a headland, which now projects into an artificial pond. It must have been originally eight or nine feet in height, by perhaps forty feet base. It is a favorite haunt of "money-diggers," by whom it has been pretty thoroughly excavated. A shaft had been sunk in it but a short time before it was visited by the author; and at that period many fragments of human bones, much decayed, which had been thrown up from near the base, were bleaching upon the

surface. The soil is here light and sandy, and a depression is still visible near by, marking the spot whence the material composing the mound was procured. It could not be ascertained that any relics of art were obtained here. See Plate VII., Fig. 3.

As already observed, most, if not all, of the ancient works which existed in this county are now obliterated. We can consequently do but little more than indicate the sites which they occupied according to the best information obtained from the early settlers. It is asserted that an inclosure of considerable size exists in the town of Irondequoit, west of Irondequoit Bay, and near the Genesee River, about five miles north of Rochester. A day was spent in search of it, but without success. Its discovery may reward the perseverance of some future explorer.*

A fine work once occupied a commanding site at the point known as "Handford's Landing," three miles north of Rochester. It consisted of a semicircular embankment, the ends of which extended to the very edge of the immense ravine which shuts in the Genesee River below the falls at Rochester. It had three narrow gateways placed at irregular intervals.

There is a locality in the town of Parma, about seven miles west of Rochester, where the earth has subsided into the fissures of the sand rock, forming what has generally been supposed to be a line of entrenchments. From some distance the apparent ditch has all the regularity of a work of art; but still it is hard to understand how it came to be regarded as an "Indian Fort," by which name it is currently known in the neighborhood. It would seem incredible that errors of this kind should become general, had not a large experience shown that upon no class of subjects do the mass of men exercise so lit-

* McCauley states that there is an ancient work on Irondequoit Bay, in Pensfeld township, on the north side of the "ridge." No information could be obtained concerning it.

the sound judgment, as upon those which relate to the history and monuments of the past.

In the town of Ogden, which adjoins Parma on the south, it is reputed that some ancient works are to be found; but from the best information which could be obtained, it seems probable that the report has no better foundation than hundreds of similar ones, subsequently found to be erroneous, and originated, it is very likely, in the discovery of an Indian cemetery, or of the traces of an Indian village.

Ascending the valley of the Genesee for twenty miles, we come to a section of country which is very rich in evidences of aboriginal occupanoy, but chiefly such as may be referred to a comparatively late date. In the town of Wheatland, and a short distance to the westward of the village of Scottsville, there formerly existed two very interesting earth-works. There is scarcely a trace of them now to be seen. They were visited by Kirkland in 1788. He found the first work "about two miles west of Allen's residence, which was an extensive flat, at a deserted Indian village near the junction of a creek (Allen's Creek) with the Genesee, eight miles north of the old Indian village of *Kanawageas*, and five miles north of the *Magic Spring* (Caledonia Springs), so called by the Indians, who believed its waters had the power of petrifying all things subjected to its influence. This work inclosed about six acres, and had six gates. The ditch was about eight feet wide, and in some places six feet deep, and drawn in a circular form on three sides. The fourth side was defended by nature with a high bank, at the foot of which was a fine stream of water. The bank had probably been secured by a stockade, as there appeared to have been a deep covered way in the middle of it, down to the water. Some of the trees on the work appeared to be two or three hundred years old."

The usual variety of relics, fragments of pottery, stone chipings, etc., have been found upon the site of this work. About half a mile south of this, and upon a greater eminence, Mr. Kirkland

traced another work, "of less dimensions than the first, but with a deeper ditch, and in a situation more lofty and defensible." Although it is well remembered by the older settlers in the neighborhood, nothing now remains to indicate that it ever existed, except the greater abundance of stones on the line of the former embankment. The position is such as the builders of these works usually selected for their defences. Upon one side is a high and precipitous bank, at the base of which flows Allen's Creek; and in every other direction the ground slopes gently. It is altogether a well chosen and very beautiful site. About three miles south of these works, on the bank of the Genesee River, and probably falling in Caledonia township, Livingston county, are to be observed the traces of a mound. It was originally about eight feet high, and was filled with human bones heaped promiscuously together. Still another mound is said to occur a few miles N. W. of Scottsville, in the town of Chili.

Near the village of West Rush, in the town of Rush, upon the banks of Honeoye Creek, were formerly two considerable inclosures. One of these was situated immediately upon the bank of the creek, which defended it upon one side; while the other occupied higher ground a hundred rods to the southward. Each contained about four acres, and the embankments were originally four feet in height. A few slight depressions indicating the ancient *caches*, with fragments of pottery scattered around, alone remain to mark the sites of these structures.

The whole of this country was occupied by the Senecas; and their cemeteries, and the traces of their ancient forts and towns, are particularly numerous along the Genesee River, and on the banks of the Honeoye. We shall refer to these in another place.

LIVINGSTON COUNTY.

THIS county, which adjoins Monroe on the south, was also a favorite ground with the Senecas. It is unsurpassed in beauty and fertility by any territory of equal extent in the State, and abounds with mementoes of its aboriginal possessors, who yielded it reluctantly into the hands of the invading whites. Here, too, once existed a considerable number of ancient earth-works, but the leveling plough has passed over most of them; and though their sites are still remembered by the early settlers, but few are sufficiently well preserved to admit of exact survey and measurement.

"In 1798," said the venerable Judge Augustus Porter, of Niagara, in a letter to O. H. Marshall, Esq., of Buffalo, "I surveyed the Indian Reservation of *Kanawageas*. There were then in the open flats of the Reservation the embankments of an old fort, which included very nearly two acres. It corresponded in situation and appearance with many others which I have seen in this part of the country, and which seem to bear a high antiquity." The *Kanawageas* Reservation embraced the township of York in this county.

Judge Porter also mentioned that he knew of two other works on the "Smith and Jones's Flat," near Mount Morris, (also in Livingston county,) all of which had the same appearance.

A work also occurs in the town of Avon, not far from the beautiful village of Avon Springs, upon the flats of the Genesee River. It is described by W. H. C. Hosmer, Esq., in the notes to his beautiful poem of "YONONDIO."

Another and very similar work once existed in the north-eastern part of Avon township, about two and a half miles from the village of Lima. Some portions of the lines may yet be traced, but with difficulty.

PLATE VIII. No. 1.

Ancient Work, Livonia Township, Livingston County, New-York.

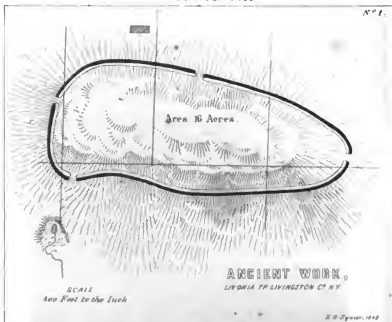
THE work here represented occurs in the township of Livonia, three miles N. E. of the village of that name. It is situated upon the summit of a commanding hill, and is the largest inclosure which fell under the notice of the author, within the limits of the State. It has an area of not less than *sixteen acres*. Where the lines of the entrenchment were crossed by fences, and consequently preserved from the encroachments of the plough, the embankment and ditch are distinctly visible. Elsewhere, however, the outlines can only be traced by a very gentle undulation of the ground, and by the denser verdure on the course of the ancient trench. With the assistance of Mr. Haddock, the proprietor of the estate, who knew the work before it had been materially impaired, the original form was made out with entire satisfaction. General Adams, who had often been over the grounds before the removal of the forest, states that the ditch was breast deep, and the embankment of corresponding height. *Caches* were formerly discovered here, and fragments of pottery are now abundant.

The inclosure had four gateways, one of which, at the north-western extremity, opened directly toward a copious spring of water, as shown in the plan. It was thought by General Adams, from certain indications (which might have been caused by the decay of palisades), that slight parallel embankments extended down the slope of the hill, and inclosed the spring here referred to. Be that as it may, the position was well chosen for defence, for which purpose the work was doubtless constructed.

A mile and a half to the southward are remains of some old fortified towns of the powerful tribe of the Senecas, for plans

PLATE VIII

N^o 1.



N^o 2

ANCIENT WORK,
1/2 Mile S.W. of the Village of Cayuga
GARFIELD, GARFIELD Co NY





and descriptions of which the reader is referred to the chapter on "Palisaded Works."

It is said that a mound, containing a large number of human bones, occurs near the head of Hemlock Lake, in the township of Springwater; but no opportunity was afforded of visiting it. At various places in the county large cemeteries are found; but most, if not all, of them may be with safety referred to the Seneca. Indeed, many articles of European origin accompany the skeletons. A cemetery of large size, and, from the character of the relics found in the graves, of high antiquity, is now in part covered by the village of Lima. Pipes, pottery, etc., are discovered here in great abundance; and it is worthy of remark, they are identical with those found within the ancient inclosures.

A number of ancient works are reported to exist higher up the Genesee River, in the southern part of Livingston and in Alleghany counties; but this entire region has been brought so thoroughly under cultivation, that it was esteemed hopeless to look for them with a view to their survey or measurement. The only information of any authentic kind which was received in addition to what is here presented, relates to a remarkable work upon a high hill, not far from the falls of the Genesee, in Alleghany county. Says Judge Porter, in a private letter dated Niagara Falls, November 18th, 1848: "Upon the west side of Genesee River, a mile or two above the falls, there is a hill, the base of which may perhaps cover two acres of ground, circular in form; and shaped like a sugar-loaf, with a truncated summit a fourth of an acre in area. Upon this summit is a breastwork. The height of the hill is between eighty and one hundred feet. I visited it in 1798, before any settlements were made by the whites nearer than Mount Morris."

Mr. Moses Long, of Rochester, describes a work which is substantially the same, as follows: "About four miles above the village of Portage, in Alleghany county, is a circular mound

or hill, which rises probably a hundred feet above the surrounding interval or 'bottom' lands. The acclivity is steep on all sides. The Genesee River curves around its base, describing nearly a semicircle, and then sweeps on in a tortuous course to the cascades or cataracts below the village of Portage. The top of the hill is quite level, covered thinly with small forest trees, and its area may comprise an acre. There are appearances of an entrenchment around that part of the summit unprotected by the river.

"My guide informed me that he had been acquainted with *Shongo*, an aged chief, and several other Indians of the Canadea Reservation, who all concurred in saying, that they had no knowledge nor any tradition in relation to this work. *Shongo* remembered the invasion of Sullivan, when the Indians cut up their corn and threw it into the river, and then retreated with their movable effects a few miles up the stream to the top of an elevated bluff, where they determined to await the attack of their enemy. I came to the conclusion that the entrenchment might have been made by an advanced detachment from Sullivan's army."

GENESEE COUNTY.

A NUMBER of very interesting remains formerly existed in this county; but few of them are sufficiently well preserved to be satisfactorily traced.

In the town of Alabama, in the extreme northwest of the county, were once three of these works, all of small size. The plough has completely defaced them. This town adjoins the town of Shelby, in Orleans county, on the south; and touches Newsted, in Erie county, on the west. It will ultimately be seen that its ancient works constitute part of a chain extending

from the "Lake Ridge," on the north, to Buffalo Creek on the southwest, a distance of fifty miles. Not less than twenty ancient works are known to occur within this range.

PLATE VIII. No. 2.

Ancient Work, Oakfield, Genesee County, New York.

IN the town of Oakfield, half a mile west of the little village of Caryville, is found the ancient inclosure, a plan of which is here given. It is remarkable as being the best preserved and most distinct of any in the State which fell under the notice of the author. It is situated upon the western slope of one of the billowy hills which characterize the rolling lands of the West, and between which the streams find their way to the rivers and lakes. The banks of the little stream which washes the work upon the north are steep, but not more than ten feet in height. Upon the brow of the bank, where the stream approaches nearest the work, the entrenchment is interrupted, and the slope toward the water is more gentle than elsewhere—indicating an artificial grade. The plan obviates the necessity for a detailed description. The embankments will now probably measure six feet in average height, calculating from the bottom of the trench. In the part of the work under cultivation, it is easy to trace the ancient lodges. Here, too, is to be found the unfailing supply of broken pottery. At the sides of the principal gateway (*a*) leading into the inclosure from the east, according to the statement of an intelligent aged gentleman, who was among the earliest settlers in this region, traces of oaken palisades were found, upon excavation, some thirty years ago. They were, of course, almost entirely decayed. A part of the area is still covered with the original forest, in which are trees of the largest dimensions. An oaken stump upwards of two feet in diameter stands upon the embankment at the point *b*.

About one mile northeast of this work was originally a large inclosure, but which is now entirely destroyed. It was called the "*Bone Fort*," from the circumstance that the early settlers found within it a mound, six feet in height by thirty at the base, which was entirely made up of human bones slightly covered with earth. A few fragments of these bones, scattered over the surface, alone mark the site of the aboriginal sepulchre. The popular opinion concerning this accumulation is, that it contained the bones of the slain, thus heaped together after some severe battle. It will, however, be seen that it probably owed its origin to the same practice to which we are to attribute the "*bone pits*" found elsewhere, that of collecting together at stated intervals the bones of the dead—a practice very prevalent among the northwestern Indians.

There is no doubt but this is one of the works visited by Rev. Samuel Kirkland, Missionary to the Senecas, in 1788. His MS. Journal was in the possession of Messrs. Yates and Moulton, who have given a synopsis of the part relating to this group of remains in the subjoined passages.

"Having examined the works (already referred to, in Monroe county) on the Genesee, he returned to *Kanawageas*, and resumed his journey west, encamping for the night at a place called *Joaike*, i. e. Raccoon (Batavia), on the river *Tonawande*, about twenty-six miles from *Kanawageas*. Six miles from this place of encampment, he rode to the open fields, and arrived at a place called by the Senecas *Tegataineáaghue*, which imports a '*double-fortified town*,' or a town with a fort at each end. Here he walked about half a mile with one of the Seneca chiefs, to view the vestiges of this double-fortified town. They consisted of the remains of two forts: the first contained four acres of ground; the other, distant about two miles, at the other extremity of the ancient town, inclosed about eight acres. The ditch around the first was about five or six feet deep. A small stream of water and a high bank circumscribed nearly one third of the inclosed ground. There were traces of six gates or open-

ings, and near the centre a way was dug to the water. The ground on the opposite side of the water was in some places nearly as high as that on which the fort was built, which might render this covered way to the water necessary. A considerable number of large thrifty oaks had grown up within the inclosed ground, both in the ditch and upon the wall; some of which appeared to be two hundred years old or more. The ground is of a hard, gravelly kind, intermixed with loam, and more plentifully at the brow of the hill. At some places at the bottom of the ditch, Mr. Kirkland ran his cane a foot or more in the soil; from which circumstance he concludes that the ditch was much deeper originally.

"Near the western fortification, which was situated on high ground, he found the remains of a funeral pile, where the slain were buried after a great battle, which will be spoken of hereafter. The mound was about six feet in height by thirty feet diameter at the base. The bones appeared at the surface, projecting at many places at the sides.

"Pursuing his course toward Buffalo Creek, (his ultimate destination,) Mr. Kirkland discovered the vestiges of another fortified town. He does not delineate it in his MSS., but says: 'On these heights, near the ancient fortified town, the roads part; we left the path leading to Niagara on our right, and went a course nearly southwest for Buffalo Creek. After leaving these heights, which afforded an extensive prospect, we traveled over a fine tract of land for about six or seven miles, then came to a barren, white-oak, shrub plain. We passed a steep hill on our right, in some places fifty feet perpendicular, at the bottom of which is a small lake, affording another instance of pagan superstition. The old Indians affirm that formerly a demon, in the form of a dragon, resided in this lake, which frequently disgorged balls of liquid fire. To appease him, many sacrifices of tobacco had been made by the Indians. At the extremity of the barren plain, we came again to Tonawande River, and forded it about two miles above the Indian town of

that name. At a short distance on the south side of the same stream, is another fortification.'"

FIG. II.

Ancient Work, Le Roy, Genesee County, New York.

REMNANTS of another ancient work occur in the town of Le Roy, three miles north of the village of the same name, in the southeastern part of this county. The accompanying sketch,

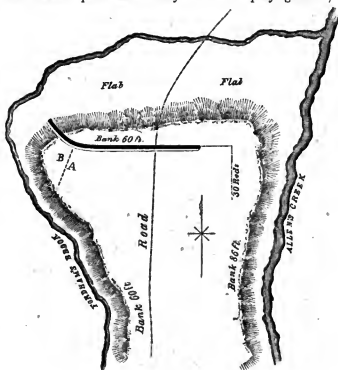


FIG. 7.

by L. H. Morgan, Esq., of Rochester, although not from an exact instrumental survey, is sufficiently accurate for all essential purposes.

The position which the work occupies is a portion of a high plain or table-land, nearly surrounded by deep ravines, bounded by Fordham's Brook and Allen's Creek, which effect a junction at this point. These streams have worn their beds through the various strata of lime and sandstone to the depth of from seventy to one hundred feet, leaving abrupt banks difficult of ascent. These natural features are best illustrated by the plan, which precludes the necessity for a minute description.

The peninsula measures about 1300 feet from north to south, by 2000 feet at its broadest part, and 1000 feet across the neck connecting it with the general table. Positions similar to this were often selected by the aborigines for defensive purposes, but in such cases have usually an embankment and trench extending across the isthmus. In this instance, however, the only trace of art is an embankment and ditch, about 1500 feet in length, and running nearly east and west across the broadest part of the peninsula, and not very far back from the edge of the ravine. The part which is laid down in the plan is said to be still very distinct; the embankment being between three and four feet in height, and the ditch of corresponding depth. The western extremity of the line curves gently outward, and extends some distance down the bank, which is at this point less abrupt than elsewhere. It is said that formerly trenches existed on the courses indicated by dotted lines on the plan; but the statement is not confirmed by any remaining traces.

A number of skeletons have been found here, together with many fragments of pottery. There have also been discovered some heaps of small stones; which have been supposed to be the missiles of the ancient occupants of the hill, thus got together to be used in case of attack. Various relics of art, pipes, beads, stone hatchets, arrow-heads, etc., have been dis-

closed here by the operations of agriculture. One of the pipes composed of baked clay is now in the possession of Rev. C. Dewey, of Rochester. It is represented of half size in the accompanying engraving, Fig. 8. The material is very fine, and the workmanship good; so good indeed, as to induce some doubt of its aboriginal origin. Another pipe carved from granular limestone was found here, as were also a number of beads, long and coarse, made of clay and burned.



FIG. 8.

According to Mr. Dewey, "the trench was estimated by the early observers at from eight to ten feet deep, and as many wide. The earth in making it had been thrown either way, but much of it inward. The road formerly crossed it by a bridge. When first known, forest trees were standing both in the trench and on its sides. In size and growth they corresponded with the forests around them. Prostrato upon the ground were numerous trunks of the heart-wood of black cherry trees of larger size, which, it is conjectured, were the remains of more antique forests, preceding the growth of beech and maple. They were in such a state of soundness as to be employed for timber by the early settlers."*

From all that remains of this work, it is impossible to conjecture for what purposes it was constructed. Indeed, it bears so few evidences of design, that we are led to distrust its artificial origin; a distrust which is strengthened by the circumstance, that in a number of instances, elevations and depressions bearing some degree of regularity, but resulting from fissures in a rock substratum or other natural causes, have been

* Schoolcraft's Notes on the Iroquois, p. 203.

mistaken for works of art. The fact that the trench in this instance has a course so nearly parallel with the edge of the ravine, is also a suspicious circumstance. The spot was not visited by the author; but he is authorized in saying that Prof. Dewey, who gave the first and most complete account of the supposed work, is now inclined to the opinion that it may be the result of natural causes.

On what is called the "Knowlton Farm," about one mile south of the town of Batavia, is a small natural elevation which was used as a burial-place by the Indians. It has been mistaken for a mound. Various relics have been discovered in ploughing over it.

ORLEANS COUNTY.

It is not known that many ancient remains occur in this county. There is, however, an interesting work in Shelby township, one and a half miles west of Shelby Centre. The following account of it was communicated by Dr. S. M. Burroughs, of Medina, to O. Turner, Esq., of Buffalo, by whom it was presented to the author.

"It consists of a ditch and embankment, inclosing, in a form nearly circular, about three acres of ground. The ditch is still well defined and several feet in depth. Adjoining this fortification on the south is a swamp, about one mile in width by two in length; which was once, if not a lake, an impassable morass. There is a passage-way through the lines of the entrenchment toward the swamp, and this is the sole gateway discoverable. Large quantities of small stones, of a size to be thrown with the hand, are accumulated in piles within and near the work. Here, too, are many arrow-heads of flint (*silex*), stone axes, and fragments of pottery, exhibiting ornaments in relief. Human skeletons almost entire have been exhumed here.

Half a mile west of the fort on a sand hill, an immense number of skeletons have been found in a very perfect state. Many seem to have been deposited in the same grave. As some of the skulls appear to have been broken by clubs or tomahawks, is it not probable that this was the site of some great battle?"

ERIE COUNTY.

ERIE county ranks next to Jefferson in the number of its ascertained aboriginal monuments. The topographical features of the two counties are much the same, although the former is by far the least elevated. Along the shores of Lake Erie and bordering Buffalo Creek are low and fertile alluvions; back of these we come to the limestone formation, and the country rises, forming a second grand terrace, along the brow of which most of the ancient works are situated. Within the limits of the late Seneca Reservation, which has been only in part brought under cultivation, there are a number of ancient works, which are unimpaired except by the operation of natural causes. It is extremely difficult, however, to find them, in consequence of the forest and the thick undergrowth. As the Reservation is cleared up, no doubt new ones will be discovered; and it is to be hoped sufficient interest in these matters may be found to exist among the citizens of Buffalo, to secure their prompt and careful investigation



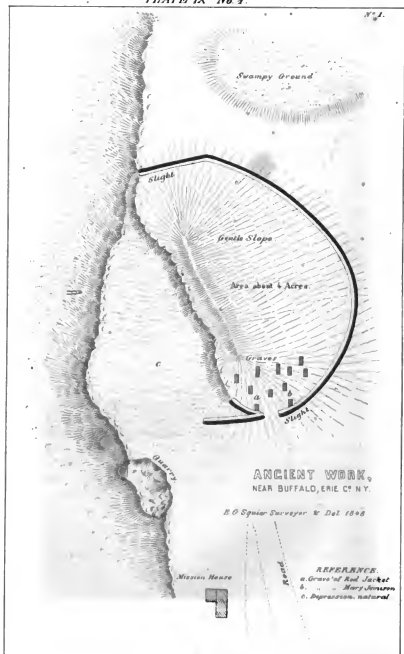


PLATE IX. No. 1.

Ancient Work near Buffalo.

ONE of the most interesting works in this county is that here represented. It derives much of its interest from the associations connected with it. The site which it occupies was a favorite spot with the Senecas, and one of their largest cemeteries occurs within its walls. Here is buried an Indian chief whose name is inseparably interwoven with the history of the Five Nations. He was a man who possessed a rare combination of talents, which, developed under different circumstances, would have secured for him a high position among the greatest statesmen and proudest orators of the world. This is hardly a proper place to speak of his character; but his devoted patriotism, his inflexible integrity, the unwavering firmness, calm and lofty dignity, and powerful eloquence with which he opposed the encroachments of the whites, notwithstanding that he knew all resistance was vain and hopeless—command an involuntary tribute to the memory of the last and noblest of the proud and politic Iroquois, the haughty and unbending Red Jacket, who died exulting that the Great Spirit had made him an Indian! Here, too, is buried Mary Jemison, "the white woman," who, taken a prisoner by the Indians when a child, conformed to their habits, became the wife of one of their chiefs, and remained with them until her death. The story of her life is one of the most eventful of those connected with our border history, filled as it is with thrilling adventures and startling incidents.

The work under notice is situated upon the edge of the second terrace, which is here moderately elevated above the fertile alluvions bordering Buffalo Creek. The particular spot which it occupies is considerably higher than any other near it, and the soil is sandy and dry. It will be seen that the terrace bank upon one side is made to subserve the purposes for which the trench and embankment were erected upon the others.

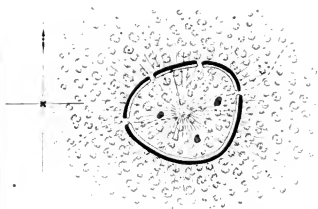
There is now no direct evidence to that effect; but no doubt can be entertained that, in common with all the other works of the State, the wall was crowned with palisades, which were also carried along the brow of the terrace. The greater portion of this work has been for some time under cultivation; and the original lines are so much defaced, that they would probably escape the notice of the careless observer. They may, nevertheless, be distinctly traced throughout their extent. At the point nearest the Indian cemetery, a portion of which is still spared by the plough, the embankment is very distinct, and cannot fail to attract attention. At a short distance to the northward of the work is a low spot of ground or marsh, toward which opens a gateway. From this was probably obtained a portion of the supply of water required by the ancient occupants of the work. A number of springs start from the foot of the terrace, where the ground is also marshy. Within the walls of this work are to be found the various traces of occupancy which I have already mentioned, sites of old lodges, fragments of pottery, etc.

Tradition fixes upon this spot as the scene of the final and most bloody conflict between the Iroquois and the "*Gah-kwas*" or Eries—a tradition which has been supposed to derive some sanction from the number of fragments of decayed human bones which are scattered over the area.

The old mission-house and church stand in close proximity to this work. The position of the former is indicated in the plan. Red Jacket's house stood above a third of a mile to the southward upon the same elevation; and the abandoned council-house is still standing, perhaps a mile distant, in the direction of Buffalo. A little distance beyond, in the same direction and near the public road, is a small mound, called "*Dah-do-sot*," artificial hill, by the Indians, who it is said were accustomed to regard it with much veneration, supposing that it covered the victims slain in some bloody conflict in the olden time. A genuine representative of the Celtic stock had selected it as the



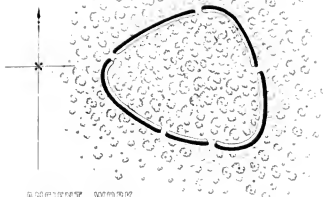
N^o 2.



SCALE
200 ft. to the Inch

ANCIENT WORK,
LANCASTER TP. ERIE CO. NEW YORK

N^o 3.



ANCIENT WORK,
1 1/2 MILE S.E. OF N^o 2
Same Township

200 ft. to the Inch

site of his cabin, and his worthy but somewhat superstitious spouse was much horrified at the intimation that it probably contained the bones of the unsanctified heathen. A shaft was sunk near the foundation of the cabin to the base of the mound, but nothing of interest was disclosed. A few half-formed arrow-heads, some chippings of horn stone, and some small bits of charcoal were discovered, intermingled with the soil thrown from the excavation. Whatever deposits are contained in the mound, if any, probably occur immediately beneath the apex which is occupied by the cabin of the Celt aforesaid. Its investigation is therefore reserved for the hands of some future explorer. It was originally between five and six feet in height by thirty-five or forty feet base, and is composed of the adjacent loam. A depression still exists upon one side, marking the spot whence the material was obtained.

PLATE IX. No. 2.

Ancient Work, Lancaster, Erie County, New York.

It is not known that any ancient remains occur nearer the work last described than the one here presented, which is situated upon lot No. 2, of the late Reservation, about four miles southeast of the village of Lancaster, near Little Buffalo Creek. It occurs upon the summit of a small eminence, in the midst of a dense and tangled forest, and is reached by a bridle path which passes through it. It approaches more nearly to the form of a true circle than any work which fell under the observation of the author in Western New York. It is small, containing less than an acre. The embankment is however very distinct, being not less than three feet in height, and the ditch of equal depth. Trees, corresponding in all respects with those of the surrounding forest, are standing within the

area and upon the wall. The ground is here gravelly and dry. A number of *caches* of considerable size were observed within the inclosure.

PLATE IX. No. 3.

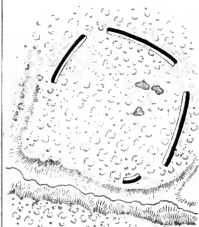
Ancient Work, Lancaster, Erie County, New York.

HALF a mile to the southeast of the above work, and, as nearly as could be ascertained, on lot No. 6, is a work of larger size and more irregular outline. It occupies a beautiful level spot of ground not far from the edge of the second terrace back from the creek. The embankment is somewhat higher than that of the previous work, and, with a single exception, quite as well defined as any observed within the State. It is very slightly reduced from its original height, which may be estimated as having been between seven and nine feet, measuring from the bottom of the ditch. At the point indicated by the letter *a* upon the embankment, is standing the stump of a withered pine tree, which is sixteen feet in circumference six feet above the roots. A few rods to the southward of the work is a narrow ravine leading off toward Little Buffalo Creek. Within this is a spring from which flows a small stream. It will be observed that two of the gateways of the work, placed not far apart, open in this direction—leading to the inference that it was here that the water used by the ancient occupants was obtained. A number of large *caches* also occur within this work.



PLATE X.

N°1.

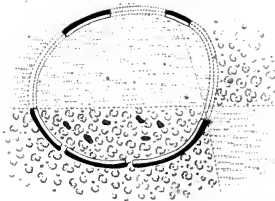


ANCIENT WORK,
S BANK OF LITTLE BUFFALO CREEK
LANCASTER TP ERIE CO NY.
(on late Indian Reservation.)

N°2



ANCIENT WORK,
CLARENCE TP ERIE COUNTY NY
2 1/2 M. S. of Clarence Hollow.



ANCIENT WORK,
CLARENCE, TP ERIE CO NY
1 1/2 M S of Clarence Hollow

PLATE X. No. 1.

Ancient Work on Late Indian Reservation, Erie County, New York.

Upon the opposite bank of the creek already named, and probably on lot No. 3 of the Reservation, is the singular work here presented. The land upon this side of the creek rises abruptly to the height of 150 or 200 feet, forming a high bluff. The edge of this bluff is cut by ravines into spurs or headlands; and upon one of these the work under notice is situated. It is not large, and is singular only in having wide interruptions in the embankment—so wide, indeed, that were it not from the perfect condition of the lines where they exist, it might be conjectured that the structure was never completed. *Caches* were noticed here. The ground is covered with a dense forest, which obscures all parts of the work.

To the southwestward of this, on lot 29 of the same range and on the south side of "Big Buffalo Creek," is still another similar work, which is described by Mr. Junius Clark, in a private communication, as about eight hundred feet in circumference, having three gateways and an open space ten rods wide at the southwestern corner. A gateway on the north opens toward a spring of water, distant about a dozen rods. Other works, probably differing in no essential respect from these, are said to occur at various places upon the southern border of the Reservation.

PLATE X. No. 2.

Ancient Work, Clarence Township, Erie County, New York.

PASSING northward from the localities last mentioned to the distance of five or six miles, keeping upon the limestone plateau, we find another series of remains, composed of a succession of works placed a mile or two apart, and extending quite through the town of Clarence. The first of these (No. 2) is two and a half miles south of the little village of "Clarence Hollow." It has been under cultivation for a number of years, and its outlines can now be traced only by carefully observing the stronger vegetable growth upon the course of the ancient trench. Where fence lines crossed the wall, short sections of the embankment are yet visible. Fragments of pottery are scattered over the area. If any of the usual pits ever existed, they have been filled up by the operations of agriculture.

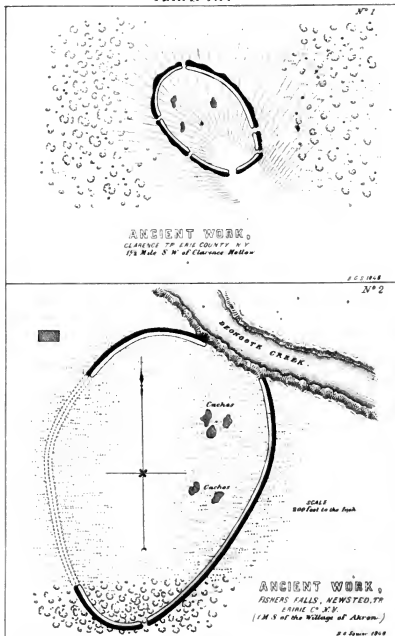
PLATE X. No. 3.

Ancient Work, Clarence Township, Erie County, New York.

A MILE northward of the work last described, and occupying a position in no respect well adapted for defence, is the inclosure here presented. It is now much defaced; the part, however, which has never been cultivated is very distinct, and one or two other short sections may yet with some difficulty be traced. Flint chippings, fragments of pottery, and a number of deep *caches* occur within the area. A large Indian cemetery is said to exist somewhere between this work and the one just noticed. However true this may be, about half a mile to the northwest on the land of a Mr. Fillmore, there is a large deposit of bones, a "*bone pit*," some fourteen feet square and four or five in depth, filled with crumbling human skeletons. The spot was marked by a very slight elevation of the earth a foot or two in height.



PLATE XI.



A couple of miles distant, still following the brow of the terrace, and not far back of the village of Clarence, was formerly another similar work now completely destroyed. Still a mile beyond is another (Plate XI., No. 1), which, although upon grounds which have been cleared, is yet perfect. It is situated upon a sandy, slightly elevated peninsula, which projects into a low tangled swamp. A narrow strip of dry ground connects it with the higher lands, which border the swamp on the south. It is small, containing less than an acre. The embankment does not preserve uniform dimensions, but has perhaps an average height of three feet. The ditch, too, is irregular, both in width and depth, owing probably in some degree to the rocky substratum, which in some places comes nearly or quite to the surface of the ground. The stumps of immense pine trees are standing within the work, as also upon its walls. Here, too, are to be found *caches*, fragments of pottery, etc. The position, for purposes of concealment and defence, is admirably chosen, and recalls to mind the famous stronghold of the Narragansetts in Rhode Island, destroyed in 1676 by the New England colonists under Winthrop and Church.

A short distance from this work, upon the brow of a neighboring elevation, a number of human skeletons have been exposed by the plough. They probably mark the site of an Indian cemetery. A mile to the eastward, upon a dry, sandy spot, is another of the "bone pits" already several times referred to, which is estimated, by those who excavated it originally, to have contained *four hundred* skeletons heaped promiscuously together. They were of individuals of every age and sex. In the same field are found a great variety of Indian relics, also brass cap and belt plates, and other remains of European origin. Not far distant, some lime burners discovered, a year or two since, a skeleton surrounded by a quantity of rude ornaments. It had been placed in the cleft of the rock, the mouth of which was covered by a large flint stone.

Passing onward in the same direction which we have been

pursuing, we come to the Batavia and Buffalo road, the great thoroughfare over which, previous to the construction of the railroad and canal, passed the entire western trade and travel. Here, at a point a few miles from Clarence, known as the "Vandewater Farm," are the traces of another work. A few sections alone remain, barely sufficient to indicate that it was of considerable size. The road passes through its centre.

PLATE XI. No. 2.

*Ancient Work, Fisher's Falls, Newsted Township, Erie County,
New York.*

THE sole remaining work in this county which was personally examined by the author is the one here presented. It is situated five miles eastward of the locality last noticed, at a place known as "Fisher's Falls," in the town of Newsted, upon the banks of a creek, at present barbarously designated "Murder Creek." The creek here plunges down into a deep, narrow gorge with precipitous banks, which continues to the edge of the terrace a fourth of a mile distant. The relative position of the work, which is of large size, is correctly designated on the plan. It is now under cultivation, and is much reduced from its original elevation, but can be traced without difficulty throughout its extent. The older inhabitants affirm that the walls were originally five feet in height, and the ditch of corresponding proportions. Traces of the ancient *caches* are yet to be observed; and without the inclosure is a rock, the surface of which bears a number of artificial depressions hollowed out by the Indians—the rude mortars in which they pounded their corn.

This work occurs upon the old Indian trail, which extended from the Genesee River to Batavia, and thence to Buffalo and Niagara. A branch of this trail, after striking the limestone

ledge at Tonawanda Creek, followed along its brow to Buffalo Creek. It diverged inwardly at the point under notice, so as to escape the impassable ravine already mentioned. Kirkland, missionary to the Senecas in 1787, passed along this trail on his way to Buffalo, and incidentally refers to a work which he encountered after crossing Tonawanda Creek, and which is probably the one here figured.

Besides the ancient remains here noticed, there are no doubt many others of which no information has yet been obtained. It is not probable, however, that they possess any novel features, or differ materially in any respect from those already described. Some "bone pits," in addition to those already mentioned, occur in Clarence township, and will be noticed in another connection.

This county abounds in traces of recent Indian occupancy; in fact, the rude cabins of the aborigines have scarcely crumbled away, since they deserted their favorite haunts upon the banks of the Buffalo Creek and its tributaries. A small band are at bay upon the borders of the Tonawanda, sullenly defying the grasping cupidity of those who, Shylock-like, sustained by fraudulent contracts, are impatient to anticipate the certain doom which impends over this scanty remnant, and would deny them the poor boon of laying their bones beside those of their fathers.

CHAUTAUQUE COUNTY.

This county abounds in ancient monuments; but no opportunity was afforded of examining them during the progress of the investigations here recorded. It is probable they are but a continuation of the series extending through Erie county, (which adjoins Chautauque on the northeast,) and it is not likely they present any new features.

One of the most remarkable occupies an eminence in Sheridan township, four miles east of Fredonia, on the banks of Beaver Creek. It corresponds, in all respects, with the hill-works already described. Another of like character occurs in the southern part of the same township.

MONTGOMERY COUNTY.

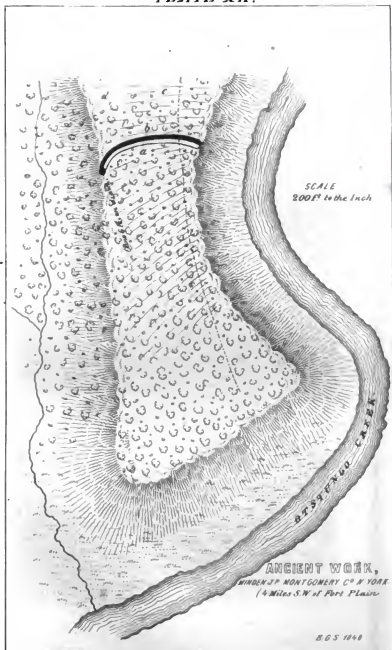
PLATE XII.

Ancient Work, Minden Township.

THE work here figured is, in many respects, the most remarkable in the State. It is the only one known which is situated upon waters flowing into the Hudson River. Its nearest neighbors upon the west are the ancient works in Onondaga county, a hundred miles distant. Between it and the Atlantic, we are not aware of the existence of a single monument of like character.

It occurs upon the banks of the Otsungo Creek, a branch of the Otsuago—itsself a tributary of the Mohawk, about four miles in a southwestern direction from Fort Plain, in the town of Minden. It is known in the vicinity by the name of "*Indian Hill*." The position is admirably chosen, and is naturally by far the strongest and most defensible of any which fell under the observation of the author in the entire course of his explorations in this State. It is a high point of land projecting into a bend of the creek, which upon one side has cut away the slate rock, so that it presents a mural front upwards of one hundred feet in height, and entirely inaccessible. Upon the opposite side is a ravine, within which flows a small stream. Here the slope, though not precipitous, is very abrupt; and if

· *PLATE XII.*





a line of palisades were carried along its brow, it would be entirely inaccessible to a savage assailant. Across the narrow isthmus which connects this headland with the adjacent high grounds, is an embankment and ditch two hundred and forty feet in length, extending from the precipice upon the south to the brow of the ravine on the north; along which, curving inward, it is carried for some distance, terminating at a gigantic pine six feet in diameter. It has been supposed by some that this tree has grown upon the embankment since it was erected; but it seems most likely that it was the starting point of the ancient builders. The wall is not of uniform height, but at the most elevated point rises perhaps six feet above the bottom of the ditch. No gateway is apparent, but one may have existed where the "wood road" now crosses the entrenched line. The plan will afford an accurate idea of the position and its natural strength. The inclosed area is about seven hundred feet long by four hundred and fifty broad at its widest part, and contains very nearly six acres. It is densely covered with immense pines throwing over it a deep gloom, and, with the murmur of the stream at the foot of the precipice, impressing the solitary visitor with feelings of awe, which the professed antiquary might deem it a weakness to acknowledge.

Fragments of pottery and a variety of rude implements, as also copper kettles and other articles of European origin, have been found upon excavation within the inclosure and in its immediate vicinity. At *c* and *d*, skeletons have been disclosed by the plough. They were well preserved, and had been buried, according to the Indian custom, in a sitting posture.

The valley of the Mohawk in this vicinity, it is well known, was the favorite seat of the tribe whose name it bears, and has been made classical ground by the stirring incidents of our early history. It was here the Indians maintained themselves until the period of the Revolution, and it seems probable that it was they who erected the work in question at an earlier or

later date in their history.* It corresponds in position and character with the works of the other parts of the State, and is precisely such a structure as we might expect to find erected by a very rude people. It could not be ascertained that there are any traditions connected with it; in fact, its existence is scarcely known beyond its immediate vicinity. The first intimation concerning it was derived from O. MORRIS, Esq., of the New York Institution for the Deaf and Dumb, to whom the author would convey his acknowledgments.

* In the London Documents preserved in the Office of the Secretary of State, is a paper containing the observations of Wentworth Greenhalgh, who in 1677 made a journey from Albany among the Indians to the westward. The following notices of the towns of the Maquaes, or Mohawks, are interesting in this connection:

"The Maquaes have four towns, viz.: Cahainaga, Canagora, Canajorha, Tionondogue, besides one small village about 110 miles from Albany.

"Cahainaga is double stockaded round; has four ports, about four feet wide apiece; contains about twenty-four houses; and is situated upon the edge of a hill, about a bow-shot from the river side.

"Canagora is only singly stockaded, has four ports like the other, contains about sixteen houses, and is situated upon a flat about a stone's throw from the water's edge.

"Canajorha is also singly stockaded, with like number of houses, and a similar situation only about two miles distant from the water.

"Tionondogue is doubly stockaded round, has four ports, four feet wide apiece, contains about thirty houses, and is situated on a hill about a bow-shot from the river."—*Documentary History of New York*, Vol. I., p. 11.

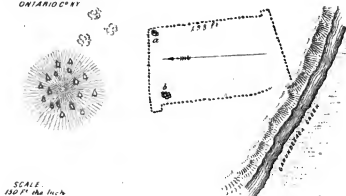
The Indian town of Canajoharie, or, as it was sometimes called, "Middle Mohawk Castle," says Mr. L. H. Morgan, in his valuable "Letters on the Iroquois," was situated at the junction of the creek referred to in the text, the Ot-squa-go, and the Mohawk. "It occupied a little eminence near the present site of Fort Plain, which the Indians called *Car-rag-jo-res*, The Hill of Health. The name of the village, in the Oneida dialect, *Can-a-jo-har-a-la-ga*, signified a kettle inverted on a pole."



PLATE XIII.

PALISADE WORK, OF THE SENEGAS, NEAR GENEVA, ONTARIO CO. NY

N^o 1.

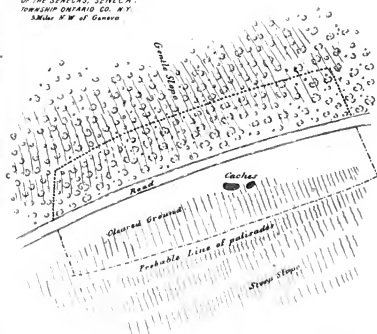


SCALE.
150 Ft. the Inch

E.G.S. 1860

PALISADE WORK, OF THE SENEGAS, SENECA TOWNSHIP, ONTARIO CO. N.Y. 3 Miles N.W. of Geneva

N^o 2



E.G.S. 1860

CHAPTER III.

PALISADED INCLOSURES.

BESIDES the earth-works which have already been described, and which furnish the principal objects of antiquarian interest in the State, occasional traces are found of defensive structures of a probably later date. These traces consist chiefly of a succession of small holes in the earth, caused by the decay of wooden palisades erected without the addition of an embankment and trench. These holes, which are never visible in cultivated grounds, enable us to follow the outlines and make out the forms of the structures which once existed where they are found. Some of these, as that of *Ganundasaga* near Geneva, are known to have been occupied within the historical period. And although it seems probable that the embankments of all the inclosures already described were originally crowned with palisades, still I have thought the difference between these and simple palisaded works sufficiently marked to constitute the basis of a classification. We may also premise what in the sequel will probably admit of no doubt in any mind, that these two classes of works are of different eras, though possessing a common origin.

PLATE XIII. No. 1.

"*Ganundasaga Castle*," near Geneva, Ontario County, New York.

THE traces of this palisaded work are very distinct, and its outline may be followed with the greatest ease. Its preservation is entirely due to the circumstance that at the time of the cession of their lands at this point, the Senecas made it a spe-

cial condition that this spot should never be brought under cultivation. "Here," said they, "sleep our fathers, and they cannot rest well if they hear the plough of the white man above them." The stipulations made by the purchasers have been religiously observed.

The site of this ancient palisade slopes gently toward a little stream, called Ganundasaga Creek, which supplied the occupants of the fort with water. The ground is covered with a close greensward, and some of the apple trees planted by the Indians are still flourishing. In form the work was nearly rectangular, having small bastions at the northwestern and southeastern angles. At *a* and *b* are small heaps of stone, bearing traces of exposure to fire, which are probably the remains of forges or fireplaces. The holes formed by the decay of the pickets are now about a foot deep. A fragment of one of the pickets was removed by Mr. L. H. Morgan, of Rochester, in 1847, and is now in the State Cabinet at Albany. It is of oak.

A few paces to the northward of the old fort is a low mound with a broad base, and undoubtedly of artificial origin. It is now about six feet high, and is covered with depressions marking the graves of the dead. There is a tradition current among the Indians concerning this mound, to the effect that here in the olden time was slain a powerful giant, above whom the earth was afterward heaped. They believe that the bones of this giant may be found at the base. It would be interesting for a variety of reasons to have this mound excavated. By whatever people erected, it is certain that it was extensively used by the Senecas for purposes of burial.

In the cultivated fields surrounding the interesting works here described, numerous relics have been discovered—chiefly, however, of European origin.

This fort was destroyed by Sullivan in 1779. He burned the palisade, destroyed the crops in the adjoining fields, and cut down most of the fruit trees which the Indians had planted.

The name Gā-nun-dā-sa-ga, given to this locality, Mr. Morgan informs us, in his "Letters on the Iroquois," signified *a new village, or the place of a new settlement*, and was also the aboriginal name of the lake, and the creek upon which the Indian village was situated. Geneva was christened Ga-nun-da-sa-ga by the Senecas, and was known among them by that name exclusively. Mr. Morgan also gives us the following interesting tradition connected with the mound above described.

"A Seneca of giant proportions having wandered west to the Mississippi, and from thence east again to the sea-coast, about the period of the colonization of the country, received a gun from a vessel, together with some ammunition, and an explanation of its use. Having returned to the Senecas at Ga-nun-da-sa-ga, he exhibited to them the wonderful implement of destruction, the first they had ever seen, and taught them how to use it. Soon after, from some mysterious cause, he was found dead; and this mound was raised over him on the place where he lay. It is averred by the Indians that if the mound should be opened, a skeleton of supernatural size would be found beneath it."

PLATE XIII. No. 2.

Palisaded Work of the Senecas, Seneca Township, Ontario County, New York.

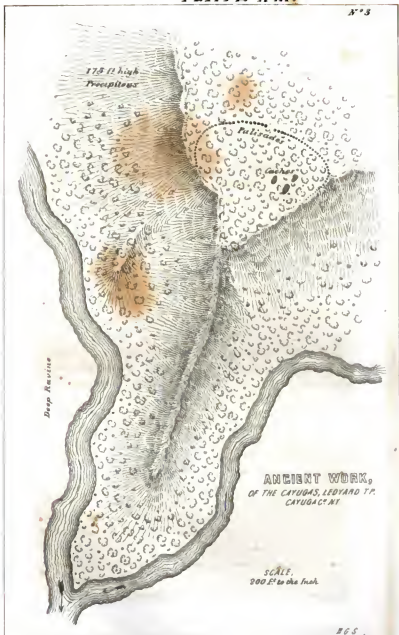
THIS work is situated about four miles to the northwest of that last described, upon a high ridge of land extending north and south, and parallel to and not far distant from another on which is situated an ancient earth-work figured on Plate VII., No. I. A cross road from the "Castle Street Road" to the town of Vienna runs along the crown of the ridge, and longitudinally through the work under notice. Upon the right of this road the ground has been cultivated, and here the outlines of

the work are obliterated. Traces of several *caches* which existed within the lines may however yet be seen. Upon the left, the forest still remains undisturbed; and here the outlines of the inclosure are quite distinct, yet not sufficiently marked to arrest the attention of the passer. The indications are precisely the same as in the work at Ganundasaga. Fragments of pottery, pipes, and other relics exactly corresponding with those which are so frequent in the earth-works described in a previous chapter, are also found in abundance upon this site. The work does not appear to have had bastions, and is probably of more ancient date than the one just noticed.

PLATE XIII. No. 3.

Ancient Work of the Cayugas, Ledyard Township, Cayuga County, New York.

THIS work is found about twelve miles southwest of Auburn, in the town of Ledyard, Cayuga county. It forms a good illustration of the character of the aboriginal defences. It is situated upon a high point of ground, formed by the junction of two immense ravines, which here sink some hundreds of feet below the table-lands. A narrow spur, hardly wide enough to permit two to walk abreast, extends down to the bottom of the ravines, starting from the extreme point of the headland. It is still called the "Indian Path," and affords a practicable descent to the water. At every other point the banks are almost, if not entirely inaccessible. At some distance inward, extending from the bank of one ravine to the other, was originally a line of palisades. The holes left by their decay are still distinct, each about eight inches in diameter. The position is eminently a strong one, and, under the system of attack practiced by the Indians, must have been impregnable. Within the inclosure are to be found *caches* and other features common to the class





of works previously described, and with which this work entirely coincides, except that the embankment is wanting.

So far as could be ascertained, there is no tradition current respecting this work. Still, as it is known that the principal towns of the Cayugas existed in this vicinity until a very late date, there can be no doubt that this was one of their places of last resort. Very many traces of their former occupancy occur here and along the eastern shores of Cayuga Lake.

PLATE XIV. No. 1.

Ancient Work of the Senecas, near Victor, Ontario County, New York.

THE site occupied by the work here figured and the country adjacent, derives considerable interest from its historical associations. Recent investigations have satisfactorily determined that the Marquis De Nonville penetrated here in his celebrated expedition against the Senecas, in 1687; and there is good reason to believe that the traces at present existing are those of the palisaded fort which was destroyed at that time. They occupy the summit of a high hill, so steep upon most sides as to be ascended only with the greatest difficulty. The line of the palisades can now be traced only at intervals; but from the nature of the ground and the recollection of persons familiar with the site before it was disturbed by the plough, it was found easy to restore with accuracy the parts which have been obliterated. The sole entrance which can now be made out is at the point marked by the letter *a*, where the palisades were carried for some distance inward, leaving an open rectangular space, which may have been occupied by a block-house or something equivalent. Nearly in front, and at the bottom of a deep and narrow ravine, a copious spring starts out from the hill;

probably the one alluded to by De Nonville in his letter of the 25th of August, 1687.

"On the next day," says this commander, "the 14th of July, we marched to one of the large villages of the Senecas, where we encamped. We found it burned and a fort nearly quite abandoned; it was very advantageously situated on a hill. . . . We remained at the four Seneca villages for ten days. All the time was spent in destroying the corn, which was in such great abundance that the loss, including the old corn which was in *cache* which we burnt, was computed at 400,000 minots (1,200,000 bushels) of Indian corn."

The large village alluded to here is no doubt the one which was situated on the eminence now known as "Boughton's Hill," where abundant traces of Indian occupancy at this period are found. These consist of copper kettles, French hatchets, broken gun-barrels, arrow-heads, pipes, pottery, burnt corn, etc. The iron recovered here at the time of the first settlement of the country, was sufficiently abundant to repay the cost of clearing the grounds. Indeed it was the source whence the early blacksmiths, for a long distance round, derived the iron for ordinary consumption; and even now the smithies in the vicinity consume large quantities of the metal which the operations of agriculture continue to bring to light.

The remains upon Boughton's Hill are mentioned by Mr. Clinton as corresponding in all respects with those which he observed in Onondaga county, and to which he was disposed to ascribe a high antiquity. They may all be referred to the same period, and no doubt mark the sites of Onondaga and Seneca villages in the 17th century.*

* Having alluded to the expedition of De Nonville, it will not prove uninteresting to insert the following account of his attack on the Seneca towns, which we find in the "Rochester Democrat," translated from a MS. History of Canada, by M. L'Abbe de Belmont, discovered in the Royal Library of Paris, and printed for private circulation, under the direction of the Historical Society of Quebec. For further information

PLATE XIV.

N° 1.



N° 2.



ANCIENT WORK, OF THE SENECA

2 MILES S.W. of VICTOR, ONTARIO C^Y N.Y.

(Destroyed by De Konville 1687)

B. G. Squier, S. & D. 1848



PLATE XIV. No. 2.

Ancient Work of the Senecas, Livonia Township, Livingston County, New York.

THE traces of another palisaded work, no doubt erected by the Senecas, but probably at a later period than that near Victor, may still be seen on the farm of Gen. Adams, in Livonia township, Livingston county, two miles northeast of the village of Livonia.

respecting this famous expedition, the reader is referred to the memoirs upon that subject by Mr. O. H. Marshall, published by the Historical Society of New York.

After a long account of the organization of the expedition, the Abbe de Belmont proceeds:

"Never had Canada seen, and never perhaps will it see, a similar spectacle: three barques anchored opposite a camp, composed of one fourth regular troops, with the General's suite; one fourth *habitans*, in four battalions, with the gentry of the country; one fourth Christian Indians; and, finally, a crowd of all the barbarous nations, naked, tattooed and painted over the body with all sorts of figures, wearing horns on their heads, *queues* down their backs, armed with arrows. We could hear during the night a multitude of languages, and songs and dances in every tongue. The Tsonnontouans (Senecas) came to reconnoitre us, and then went to burn their village and take to flight.

"We entered and pushed our batteaux into the water of the little lake of Ateniatarontague (Irondequoit); built a fort, and took our departure from it on the 12th of July, toward evening. M. de Cailleres, Lt. General, led the advanced guard, composed of three hundred Christian Indians on the right, commanded by M. de Sainte Hilene. The pagan savages on the left with three companies—100 Ottawas, 300 Poux, 100 Chaouanons or Illinois, and 50 Hurons commanded by the interpreters, Nicholas Perrot, Micheloque and Peman, with the runners and volunteers in the centre, making from eight to nine hundred men. At some distance after the advanced guard, came the main body of four battalions of regulars and four of militia. M. the Marquis was at the head of the regular troops, and M. Dugue of the militia.

"The march was a little hurried; the wearied troops were dying of thirst; the day was hot. The two bodies found themselves too distant

It occupied a beautiful, broad swell of land, not commanded by any adjacent heights. Upon the west side of the lines is a fine, copious spring; for which the Indians had constructed a large basin of loose stones. The form and dimensions of the work are given in the accompanying plan. Upon a little elevation to the left, as also in the forest to the northward, are

from each other. The scouts, too, were deceived; for having come to the *deserts* (barrens or plains) of Gaensara, (Victor,) they found five or six women who were going round in the fields. This was a lure which the Iroquois held out to the French to make them believe that they were all in their village. In fact, this was the cause of the hasty march of the Marquis, who wished to surround the town before their leaving it. But the principal cause of all that happened was that *Goristatsi* and *Gannagenroguen* Agniers (Mohawks) stole from the barque in the night, and went to the Tsonnontouans and told them our number, our plan, and above all, that the savages carried on their heads red head-dresses.

"Thereupon all the warriors took off their breech-clothes in order to pass for the Ottawas, who do not wear them, and made them into head-dresses, which was of service in enabling them to pass for allies. Finally the women and old men, loaded with what they had of value, fled to Onlongouen (Cayuga). All the warriors, to the number of eight hundred, having burned their village, resolved to prepare an ambuscade.

"The territory of Gaensara is very hilly. The village is upon a high hill, which is mounted by three little hills or terraces; at the foot is a valley, and opposite some other hills, between which passes a large brook overhung with woods, descending and rapid, which in the valley makes a little marsh, covered with alders. This is the place which they selected for their ambuscade. They divided themselves, posted three hundred men along the falling brook between two hills, in a great thicket of beech trees, and 500 at the bottom of these hills in the marsh and among the alders, with the idea that the first ambuscade of three hundred men should let the army pass and then attack them in the rear, which would force it to fall into the second ambuscade which was concealed at the bottom of the hills in the marsh. They deceived themselves, nevertheless; for as the advanced guard which M. de Callieres commanded was very distant from the body under the command of the Marquis, they believed that it was the entire army. Accordingly as the advanced guard passed near the thicket of beeches, after making a horrible whoop (*sakaqua*), they fired a volley.

"It is inevitably very disadvantageous to be taken by surprise and

extensive cemeteries. Many articles of comparatively late date are found in the graves. The area of the work was about ten acres.

Three miles to the eastward formerly existed the traces of a work represented to have been octangular in shape, and of considerable size. It has been wholly obliterated.

fall into an ambush. The Ottawas and the heathen Indians all fled; they were at the left of the French advanced guard composed of the three companies of Du Luth, La Durantaye and Tonti, which they left exposed. The Christian Indians of the Mountain and the Sault, and the Abonaquis held fast and gave two volleys.

"M. the Marquis advanced with the main body, composed of the Royal troops, to occupy the height of the hill where there was a little fort of pickets; but the terror and disorder of the surprise were such that there was only M. de Valrenne who distinguished himself there, and M. Dugue, who, bringing up the rear-guard, rallied the battalion of Berthier which was in flight, and being at the head of that of Montreal, fired two hundred shots. M. the Marquis *en chemise*, sword in hand, drew up the main body in battle order and beat the drums at a time that scarcely any one was to be seen. This frightened the three hundred Tsonuontouans of the ambushade, who fled from above toward the 500 who were ambushed below. The fear that all the world was upon them, made them fly with so much precipitation that they left their blankets in a heap and nothing more was seen of them.

"A council was held; it was resolved, as it was late, to sleep on the field of battle for fear of another surprise. On going into the place of the ambushade, 14 Iroquois were found dead or dying. Their heads were cut off and brought into camp. One of those still alive said that there were 800 of them—300 above and 500 below—and that the Onlongonens (Cayugas) were to come the next day, which was the reason that they stayed where they were. There were found at several places, during the succeeding days, provisions and some other dead savages—or if not dead our men killed them.

"For our loss. Father Angelran, a celebrated Missionary to the Ottawas, was shot through the thighs; among the French, Nautara, Filiatro and others were killed.

"Among our savages, were slain Tegaretouan Le Soleil, of the mountain, a brave Christian in every respect; Oyernatariben, *La Cendre Chaud* (*Hot Ashes*), of the Sault. Oonlagon, Le Ciel des Tionnontates, Huron. Three wounded savages and many Frenchmen, who suffered

In Queen's county there were, some years ago, traces of aboriginal works, which seem to have differed very slightly from a portion of those just noticed. They are thus described by Judge Samuel Jones, in a notice of the local history of Oyster Bay, written in 1812:

"When this part of Long Island was first settled by the Europeans, they found two fortifications in the neighborhood of Oyster Bay, upon a neck of land ever since called, from that circumstance, 'Fort Neck.' One of them, the remains of which are very conspicuous, is on the southernmost point of land on the neck adjoining the Salt Meadow. It is nearly, if not exactly, a square; each side of which is about *one hundred feet* in length. The breastwork or parapet is of earth; and there is a ditch on the outside, which appears to have been about six feet wide. The other was on the southernmost point

a great deal, were brought in, borne upon litters by our men, who relieved each other several times each day.

"On the morrow we marched in battle order, watching for an attack. We descended the hill by a little sloping valley or gorge, through which ran a brook bordered with thick bushes, and which discharges itself at the foot of the hill in a marsh full of deep mud, but planted with alders so thick that one could scarcely see. There it was that they had stationed their two ambuscades, and where perhaps we would have been defeated, if they had not mistaken our advanced guard for the whole army, and been so hasty in firing. The Marquis acted very prudently in not pursuing them, for it was a trick of the Iroquois to draw us into a greater ambuscade. The marsh, which is about twenty acres (arpens) in extent, being passed, we found about two or three hundred wretched blankets, several miserable guns, and began to perceive the famous Babylon of the Tsionnontouans, a city or village of bark, situate at the top of a mountain of earth, to which one rises by three terraces (hills). It appeared to us, from a distance, to be crowned with round towers, but these were only large chests (drums) of bark about four feet in length, set the one in the other, some five feet in diameter, in which they keep their Indian corn. The village had been burnt by themselves; it was now eight days since. We found nothing entire in the town except the town cemetery and the graves. It was filled with snakes and animals, a great mask with teeth and eyes of brass, and a bear-skin with which they

of the Salt Meadow, adjoining the bay, and consisted of palisades set in the ground. The tide has worn away the meadow where the fort stood, and the place is now part of the bay and covered with water; but my father has often told me that within his memory part of the palisades were still standing. In the bay, between the Salt Meadow and the beach, are two islands of marsh, called Squaw Islands; and the uniform tradition among the Indians is, that the forts were erected by their ancestors for defence against their enemies, and that upon the approach of a foe, they sent their women and children to these islands, which were in consequence called Squaw Islands."*

Examples of this class of aboriginal remains might be greatly multiplied. Those, however, which have already been presented, will serve sufficiently to illustrate their character. In

juggle in their cabins. There were in the four corners great boxes of grain which they had not burnt. They had, outside this post, their Indian corn in a picket fort at the top of a little mountain, steep (or cut down, *scarped*) on all sides, where it was knee high, throughout the fort.

"The Tsomnontonans have four large villages, which they change every ten years, in order to bring themselves near the woods and to permit them to grow up again. They call them Gaensara, Tohaiton, which are the two larger, Onnontagoué, Onnenaba, which are smaller. In the last dwells Ganonketahoui, the principal chief. We cut the standing grain, already ripe enough to eat, and burned the old. It was estimated that we burnt one hundred thousand minots of old grain, and a hundred and fifty thousand minots of that standing in the field, besides the beans, and the hogs that we killed. Sixty persons died of wounds received in the battle, and a multitude perished of want; many fled beyond the great mountains of Onnontaguo, which separate them from Virginia, and went to dwell in the country of the Adastoez; the greater part of the captives dispersed, and since that time the Tsomnontouanne nation, which counted ten thousand souls in all, has been reduced to half that number. From here, against the expectations of the Indians, who believed that we were going to Cayuga, Onondaga and the other Iroquois cantons, we went to establish a fort at Niagara, where we arrived after three days' journey."

* Coll. N. Y. Hist. Soc., Vol. III., p. 338.

all are found relics corresponding in every particular with those discovered within the walls of the earth-works described in the preceding chapter, but usually with the addition of articles of later date and known European origin. This circumstance is not without its importance in estimating the probable dependence between the two classes of remains.

CHAPTER IV.

MOUNDS, BONE-HEAPS, ETC.

VARIOUS references to mounds or tumuli, resembling those found in the Valley of the Mississippi, have been made in the preceding pages. These mounds are far from numerous, and hardly deserve a separate notice. It is, nevertheless, an interesting fact to know that isolated examples occur, in situations where it is clear no dependence exists between them and the grand system of earth-works of the Western States. It serves to sustain the conclusion that the savage Indian tribes occasionally constructed mounds; which are, however, rather to be considered as accidents than the results of a general practice. The purposes of the mounds of New York, so far as can be determined, seem uniformly to have been those of sepulture. They generally occur upon commanding or remarkable positions. Most of them have been excavated, under the impulse of an idle curiosity, or have had their contents scattered by "money-diggers," a ghostly race, of which, singularly enough, even at this day, representatives may be found in almost every village. I was fortunate enough to discover one upon Tonawanda Island, in Niagara River, which had escaped their midnight attentions. It was originally about fifteen feet in height. At the base appeared to have been a circle of stones, perhaps ten feet in diameter, within which were several small heaps of bones, each comprising three or four skeletons. The bones are of individuals of all ages, and had evidently been deposited after the removal of the flesh. Traces of fire were to be discovered upon the stones. Some chippings of flint and broken arrow-points, as also some fragments of deer's horns, which ap-

peared to have been worked into form, were found among the bones. The skulls had been crushed by the superincumbent earth.

The mounds which formerly existed in Erie, Genesee, Monroe, Livingston, St. Lawrence, Oswego, Chenango, and Delaware counties, all appear to have contained human bones, in greater or less quantities, deposited promiscuously, and embracing the skeletons of individuals of all ages and both sexes. They, probably, all owe their origin to a practice common to many of the North American tribes, of collecting together, at fixed intervals, the bones of their dead, and finally depositing them with many and solemn ceremonies. They were sometimes heaped together so as to constitute mounds; at others, placed in pits or trenches dug in the earth; and it is probable they were in some instances buried in separate graves, placed in long ranges, or deposited in caverns, either promiscuously or with regularity.

The period when this second burial took place occurred at different intervals among the different tribes, but was universally denominated the "Festival of the Dead." Bartram, speaking of the burial customs of the Floridian Indians, says: "After the bone-house is full, a general solemn funeral takes place. The nearest kindred and friends of the deceased, on a day appointed, repair to the bone-house, take up the respective coffins, and, following one another in the order of seniority, the nearest relations and connections attending their respective corpses, and the multitude succeeding them, singing and lamenting alternately, slowly proceed to the place of general interment, when they place the coffins in order, forming a pyramid. Lastly, they cover all over with earth, which raises a conical hill or mount. They then return to town in order of solemn procession, concluding the day with a festival, which is called the 'Feast of the Dead.'"^{*} The author here quoted

^{*} Travels, p. 514.

adds, in a note, that it was the opinion of some ingenious men with whom he had conversed, "that all those artificial pyramidal hills, usually called 'Indian Monnts,' were raised on such occasions, and are generally sepulchres;" from which opinion he takes occasion to dissent. There is no doubt a wide difference between the mounds thus formed and the great bulk of those connected with the vast ancient inclosures of the Western States.

The large cemeteries which have been discovered in Tennessee, Kentucky, Missouri, and Ohio, seem to have resulted from a similar practice. In these the skeletons were generally packed in rude coffins composed of flat stones, placed in ranges of great extent. The circumstance that many of these coffins were not more than two or three feet in length, gave rise to the notion of the former existence here of a pigmy race. The discovery of iron and some articles of European origin in one of these cemeteries, in the vicinity of Augusta, Kentucky, shows that this mode of burial existed at a late period among the Indians in that direction.

The "bone pits" which occur in some parts of Western New York, Canada, Michigan, etc., have unquestionably a corresponding origin. Several of these have been described in a previous chapter. They are of various sizes, but usually contain a large number of skeletons. In a few instances the bones appear to have been arranged with some degree of regularity.

One of these pits discovered some years ago, in the town of Cambria, Niagara county, was estimated to contain the bones of several thousand individuals.* Another which I visited in

* This locality was visited and examined by Mr. O. Turner, of Buffalo, in 1823. The account of this gentleman is published in his history of the "Holland Purchase," p. 27, and is as follows:

"The location commands a view of Lake Ontario and the surrounding country. An area of six acres of level land seems to have been occupied; fronting which, upon the circular verge of the mountain, were the distinct remains of a wall. Nearly in the centre of the area was a de-

the town of Clarence, Erie county, contained not less than four hundred skeletons. A deposit of bones comprising a large number of skeletons was found, not long since, in making some excavations in the town of Black Rock, situated on Niagara River, in Erie county. They were arranged in a circle, with their heads radiating from a large copper kettle, which had been placed in the centre, and filled with bones. Various implements both of modern and remote date had been placed beside the skeletons.

In Canada similar deposits are frequent. Accounts of their discovery and character have appeared in various English publications, among which may be named the "British Colonial Newspaper," of September 24th, 1847, and the "Edinburgh New Philosophical Journal," for July, 1848. From a communication in the latter, by Edward W. Bawtree, M.D., the subjoined interesting facts are derived.

A quantity of human bones was found in one spot, in 1846, near Barrie, and also a pit containing human bones near St. Vincent's. Great numbers were found in the latter, with several copper and brass kettles, and various trinkets and ornaments in common use among the Indians. This discovery led to the examination of a similar pit, about seven miles from Penetanguishene, in the township of Giny. "This pit was accidentally noticed by a Canadian while making sugar in the neighborhood. He was struck by its appearance and the peculiar

pository of the dead. It was a pit excavated to the depth of four or five feet, filled with human bones, over which were piles of sandstone. Hundreds seem to have been thrown in promiscuously, of both sexes and all ages. Numerous bars or arrow-points were found among the bones and in the vicinity. It has been conjectured that this had been the scene of some sanguinary battle, and that these are the bones of the slain. A tree, standing directly over the spot, had been cut down, upon the stump of which could be counted 230 concentric circles of growth. Rude fragments of pottery, pieces of copper, and iron instruments of rude workmanship, had been ploughed up within the area; also charred wood, corn, and cobs."

sound produced at the bottom by stamping there; and, in turning up earth to a little depth, was surprised to find a quantity of human bones. It was more accurately examined in September, 1847, and found to contain, besides a great number of human skeletons, of both sexes and all ages, twenty-six copper and brass kettles and boilers; three large conch-shells; pieces of beaver-skin in tolerable preservation; a fragment of a pipe; a large iron ax, evidently of French manufacture; some human hair (that of a woman); a copper bracelet; and a quantity of flat auricular beads, perforated through the centre.

"The form of the pit is circular, with an elevated margin; it is about fifteen feet in diameter, and before it was opened was probably nine feet deep from the level of its margin to its centre and bottom; it was, in one word, funnel-shaped. It is situated on the top of a gentle rise, with a shallow ravine on the east side, through which, at certain seasons, runs a small stream. The soil is light, free from stones, and dry. A small iron-wood tree, about two inches in diameter, is growing in the centre of the pit.

"The kettles in the pit were found ranged at the bottom, resting on pieces of bark, and filled with bones. They had evidently been covered with beaver-skins. The shells and the ax were found in the intervals between the kettles. The beads were in the kettles among the bones, generally in bunches or strings.

"The kettles, of which Fig. 9 is an example, resemble those in use at the present day, and appear to be formed of sheet copper, the rim being beaten out so as to cover an iron band which passes around the mouth of the vessel. The iron handle, by which they were suspended, hooks into eyes attached to the band above mentioned. The smallest holds about six gallons; the largest, not far from sixteen gallons. The copper is generally very well



FIG. 9.

preserved; the iron, however, is much corroded. Two of the kettles were of brass.



FIG. 10.

"The largest of the conch-shells, Fig. 10, weighs three pounds and a quarter, and measures fourteen inches in its longest diameter. Its outer surface has lost its polish, and is quite honey-combed by age and decomposition; the inside still retains its smooth, lamellated surface. It has lost its color, and appears like chalk. A piece had been cut from its base, probably for making the beads that were found in it.* From the base of the columella of the smallest shell a piece had been cut, evidently for the purpose of manufacturing beads. The extreme point of the base of each shell had a perforation through it.

"The ax, Fig. 11, is of nearly the same model with the tomahawk now in use among the Chippeway Indians, though very much larger, measuring eleven inches in length and six inches and a half along its cutting edge. Numbers of these have been found in the neighborhood on newly cleared land.

"The pipe is imperfect. It is made of



FIG. 11.

* Dr. Bern W. Budd, of New York, states that this shell, the *pyrusa perversa*, abounds in the Gulf of Mexico and particularly in Mobile Bay. It has also been found by the officers of the U. S. Coast Survey as far north as Cape Fear, in North Carolina.

the earthenware of which so many specimens are found in the neighborhood, in the form of vessels and pipes. The spots where the manufacture of these articles was carried on are still to be seen in some places.

"The beads are formed of a white, chalky substance, varying in degree of density and hardness; they are accurately circular, with a circular perforation in the centre; of different sizes, from a quarter to half an inch, or rather more, in diameter; but nearly all of the same thickness, not quite the eighth of an inch. They may be compared to a peppermint lozenge with a hole through the centre. They were found in bunches or strings, and a good many were still closely strung on a fibrous, woody substance. The bracelet is a simple band of copper, an inch and a half broad, closely fitting the wrist. The hair is long, evidently that of a woman, and quite fresh in appearance.

"Another pit, about two miles from that just noticed, was also examined in September. It is considerably smaller, being not more than nine feet in diameter, by about the same original depth. It is situated on rising ground, in a light, sandy soil, and there is nothing remarkable in its position. A beech tree, six inches thick, grew from its centre. It contained about as many skeletons as the other pit, but had no kettles in it. The bones were of individuals of both sexes, and of all ages. Among them were a few fetal bones. Many of the skulls bore marks of violence, leading to the belief that they were broken before burial. One was pierced by a round hole, like that produced by a musket-ball. A single piece of a brass vessel was found in the pit; it had been packed in furs. A large number of shell beads, of various sizes, were also found here. Besides these, there were some cylindrical pieces of earthenware and porcelain or glass tubes, from an inch to a quarter of an inch in diameter, and from a quarter to two inches long.* The former had the

* These were clearly the European imitations of the much-prized Indian *wampum*.

appearance of red and white tobacco-pipes, worn away by friction, the latter of red and white glass. A hexagonal body, with flat ends, about an inch and a half in diameter, and an inch thick, was also found. It was composed of some kind of porcelain, of hard texture, nearly vitreous, and much variegated in color, with alternate layers of red, blue, and white. It was perforated through the centre.

"The third of these pits was examined in November, 1847. It is situated in the township of Oro, on elevated ground. The soil is a light, sandy loam. It measures about fifteen feet in diameter, has the distinctly defined elevated ring, but the centre less depressed than in those before examined, which may have resulted from the greater bulk of its contents. On its margin grew formerly a large pine, the roots of which had penetrated through the pit in every direction. The bones, which were of all sizes, were scarcely covered with earth. The skeletons amounted to several hundreds in number, and were well preserved. On some, pieces of tendon still remained, and the joints of the small bones in some cases were unseparated. Some of the skulls bore marks of violence.

"As in the first noticed pit, so in this, were found twenty-six kettles—four of brass and the rest of copper—one conch-shell, one iron ax, and a number of the flat perforated shell beads. The kettles were arranged in the form of a cross through the centre of the pit, and in a row around the circumference. The points of this cross seem to have corresponded with the cardinal points of the compass. All except two of the kettles were placed with their mouths downward. The shell was found under one of the kettles, which had been packed with beaver-skins and bark. The kettles were very well preserved, but had all been rendered useless by blows from a tomahawk. The holes were broken in the bases of the vessels. Should any doubt exist as to the purposes of these pits, the fact that the kettles were thus rendered unserviceable would tend to increase that

doubt, as it appears to have been a proceeding so very contrary to the habits and ideas of the Indians in general.*

"A pipe was found in this pit, described as having been composed of blue limestone or hard clay. On one side it had a human face, the eyes of which were formed of white pearly beads. An iron ax and sundry beads were also found here.

"A fourth pit was opened in December, 1847. It is situated on a gentle slope, in the second concession west of the Penetanguishene road, in the township of Giny. In size it corresponds very nearly with the two first described, and probably contained about the same number of skeletons. In it were found sixteen conch-shells; a stone and clay pipe; a number of copper bracelets and ear ornaments; eleven beads of red pipe-stone; copper arrow-heads; a eup of iron resembling an old iron ladle; beads of several kinds, and various fragments of furs. The shells were arranged around the bottom of the pit, not in a regular row, but in threes and fours; the other articles were found mixed with the bones. The bones were of all sizes, and the skulls uninjured except by time. The accompanying sketch (Fig. 12) will sufficiently indicate the character of the pipes. The arrow-heads, as they are supposed to have been, were simple folds of sheet copper, resembling a roughly-formed ferule to a



FIG. 12.

walking-stick. Besides the flat circular beads, which were found in great numbers, were a few cylindrical porcelain beads, etc. The red stone beads were five eighths of an inch broad,

* Dr. Bawtree is mistaken in supposing this practice uncommon. The Oregon Indians invariably render useless every article deposited with their dead, so as to remove any temptation to a desecration of the grave which might otherwise exist. A similar practice prevailed among the Floridian Indians.

and three eighths thick, with small holes at one end, uniting with each other.

"There is reason to believe that the above constitute but a very small proportion of the pits that may be found in this neighborhood. The French Canadians, now that their attention has been directed to the subject, say that they are of frequent occurrence in the woods. But besides these larger and more evident excavations, smaller ones of the same shape and apparent character are often met with. They are usually called 'potato-pits.' So far as they have been examined, they do not contain deposits. Some appear to have been covered with bark at the bottom. One was examined in which were found some pieces of pottery and one or two human bones, mixed with stones and black mould; which seemed to strengthen the supposition previously formed, that they were Indian graves from which the bones had been removed for interment in the large pits.

"A fifth pit has also been examined. It occurs about eight miles from Penetanqueshene, near the centre of the town of Giny. Close by its side is another pit, which is not circular but elongated, with a mound on each side. At the brow of the hill, if it may be so called, and commencing about twenty yards from the pits, there is the appearance of a long ditch extending in a southwestern direction; another ditch about half the length of this meets it at right angles on the top of the rising ground, and is continued a few yards beyond the point of junction; a third ditch intersects the short one, as shown in the following plan.

"The two first ditches form two sides of a parallelogram; but there is no sign of an inclosure at the other sides, where the ground is low and nearly level. The long ditch is seventy-five paces in length, the other half that length. The first terminates at a moderate-sized gum tree, the latter at the foot of a large birch. These ditches appear to be a succession of small pits or graves, and have an average depth of from one to two feet. Excavation disclosed no bones. Upon the north side of

the shorter and upper ditch, several Indian graves were found, not placed in any order, but scattered around at various dis-

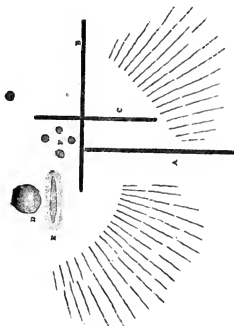


FIG. 13.

tances apart. Three of these were examined and found to contain human bones. In one was an entire skeleton. No implements or ornaments accompanied the bones.

"The bones in the large pits were covered with three or four feet of earth, which is more than is usually found over them, and the marginal ring was in consequence less apparent. It contained very few relics besides the bones, which, from their

decayed condition, seemed to indicate that burials here were made at a very remote period."

In Isle Ronde, situated near the extremity of Lake Huron, is a burial-place of the aborigines corresponding generally with those just described. It was visited in 1843 by Mr. Schoolcraft, who states that the human remains appeared to have been gathered from their original place of sepulture and finally deposited here. The bones were all arranged longitudinally, from north to south, in a wide grave or trench. There is upon the same island an Indian cemetery of comparatively modern date, in which the interments were made in the ordinary way. Another similar burial-place was visited by Mr. Schoolcraft, in the town of Hamilton, seventeen miles west of the head of Lake Ontario. The burials had been made on a high, dry ridge, in long trenches and rude vaults; the bones being piled upon each other longitudinally, as at Isle Ronde. The trenches extend over the entire ridge; and one of these examined by Mr. Schoolcraft was estimated to include not less than fifteen hundred square feet. Various remains of art, pipes, shells, beads, etc., were found with the bones, and among them several brass kettles, in one of which were five infant skulls.

The origin of the various cemeteries above noticed admits of no-doubt. The same practice which Bartram described as existing among the Floridians, and which we have reason to believe prevailed among the Indians of Tennessee, Kentucky, etc., also existed in a slightly modified form among the more northern tribes. They, too, had their solemn "Festival of the Dead," which is minutely described by Charlevoix, Brabeuf, Creuxius, and other early writers. Says Charlevoix: "This grand ceremony, the most curious and celebrated of all connected with the Indian religion, took place every eight years among some of the tribes, every ten years among the Hurons and the Iroquois. It was called the '*Fête des Morts*,' Festival of the Dead, or '*Festin des Ames*.'

"It commenced by the appointment of a place where they

should meet. They then chose a president of the feast, whose duty it was to arrange everything and send invitations to the neighboring villages. The appointed day arrived, all the Indians assembled and went in procession, two and two, to the cemetery. Among some tribes of stationary habits, the cemetery was a regular burial-ground outside the village. Some buried their dead at the foot of a tree, and others suspended them on scaffolds to dry; this last was a common proceeding among them when absent from home on a hunting expedition, so that on their return they might more conveniently carry the body with them.

"Arrived at the cemetery, they proceeded to search for the bodies; they then waited for some time to consider in silence a spectacle so capable of furnishing serious reflections. The women first interrupted the silence by cries of lamentation, which increased the feeling of grief with which each person seemed overcome. They then used to take the bodies, arrange the separate and dry bones, and place them in packets to carry on their shoulders. If any of the bodies were not entirely decomposed, they separated the flesh, washed the bones, and wrapped them in new beaver-skins. They then returned in the same procession in which they came, and each deposited his burden in his cabin. During the procession the women continued their lamentations, and the men testified the same marks of grief as on the death of the person whose bones they bore. This was followed by a feast in each house, in honor of the dead of the family. The succeeding days were considered as public days, and were spent in dancing, games, and combats, at which prizes were bestowed. From time to time they uttered certain cries, which were called '*les cris des âmes*.'

"They made presents to strangers, and received presents from them on behalf of the dead. These strangers sometimes came a hundred and fifty leagues. They also took advantage of these occasions to treat on public affairs or select a chief. Everything passed with order, decency and moderation; and

every one seemed overcome with sentiments suitable to the occasion. Even the songs and dances expressed grief in some way. After some days thus spent, all went in procession to a grand council-room fitted for the occasion. They then suspended the bones and bodies in the same state as they had taken them from the cemetery, and placed there the presents intended for the dead. If among the skeletons there happened to be one of a chief, his successor gave a grand feast in his name. In some cases the bodies were paraded from village to village, and everywhere received with great demonstrations of grief and tenderness, and everywhere presents were made to them. They then took them to the spot designated as their final resting-place. All their ceremonies were accompanied with music, both instrumental and vocal, to which each marched in cadence.

"The last and common place of burial was a large pit, which was lined with the finest skins and anything which they considered valuable. The presents destined for the dead were placed on one side; and when the procession arrived, each family arranged itself on a sort of scaffold around the pit; and as soon as the bodies were deposited, the women began again to cry and lament. Then all the assistants descended into the pit, and each person took a handful of earth, which he carefully preserved, supposing it would serve to give them success in their undertakings. The bodies and bones were arranged in order, and covered with furs and bark, over which were placed stones, wood and earth. Each person then returned to his home, but the women used to go back from day to day with some *sagamatie* (pounded parched corn)."

We have, in the quotation from Bartram on page 98, the evidence, (not the most conclusive, it is true,) that some of the mounds of the South were general cemeteries, and not of a very high antiquity.

* Charlevoix, Vol. II., p. 194, *ubi supra*; Creuxii *Historia Canadensis*, p. 97.

In a letter dated Mt. Sylvan, Mississippi, August, 1847, Mr. R. Morris presents the following facts respecting the mounds of that region. "A mound which I opened last summer, twelve miles southeast from this place, had in it not less than fifty full skeletons, all pretty near the surface. They were packed without order, with layers of pounded clay between them. Those nearest the top were black and quite fresh, but lower down they were greatly decayed. No relics accompanied them, although in the graves where the later races buried their dead, are found many ornaments, utensils and weapons.

"A few miles from Panola, there is a mound quite full of human bones. Hundreds may be thrown out with a sharpened cane. Another mound, about twelve miles north of the place just named, was opened a year or two since. In the centre was found a structure like a cistern, nearly round, four feet across, and filled with soil. This being removed, an earthen vessel of singular form and material was taken out."

Mounds designed as *general cemeteries*, if indeed there be any in the Western States, are certainly few in number, and of modern date. One, containing many skeletons, disposed in layers, formerly existed in Belmont county, Ohio. Whether it was secondarily appropriated by the Indians or built by them, it is not presumed to say; the remains found in it were indubitably of the recent tribes and of late deposit.

The tumulus examined by Mr. Jefferson on the low grounds of the Ravenna River, and described in his "Notes on Virginia," is attributed by him to the recent tribes of Indians, by whom it was probably built. The stream on which it occurs is one of the lower branches of the James River, which empties into the Atlantic. We have no satisfactory evidence that the race of the mounds passed over the Alleghanies, though they seem to have turned the flank of that range a little upon the north and on the south. The existence of a few tumuli to the east of these mountains, unless in connection with other and extensive works, such as seem to have marked every step of the

progress of that race, is therefore of little importance, and not at all conclusive upon this point; especially as it will hardly be denied that the existing races of Indians did and still do occasionally construct mounds of small size. This mound was estimated by Mr. Jefferson to contain the remains of a thousand individuals, a portion of which, particularly toward the surface, were placed without order, while the remainder seemed to have been deposited with a certain degree of regularity. This is certainly a very large estimate of the contents of a barrow but forty feet base by seven feet in height. It will not be out of place to remark here, that by the unpracticed observer, the bones of a hundred skeletons placed together would probably be mistaken for those of several hundred or a thousand.

We have, it is true, but very few accounts of the construction of mounds by the existing tribes of Indians. Lewis and Clark noticed, in their travels west of the Mississippi river, a spot "where one of the great chiefs of the Mahas had been interred. He was buried on a hill, and a mound twelve feet in diameter and six feet in height erected over him."* Beck mentions a large mound on the Osage river, which had been erected within the last thirty or forty years, by the Osages, in honor of one of their dead chiefs.† Mention is made in the documents

* *Exp.*, vol. I., p. 43. "Blackbird (Wash-ing-gah-sahba), chief of the Omahaws, or Mahas, died in 1800, and was interred in a sitting posture on the back of his favorite horse, upon the summit of a high bluff of the Missouri, 'that he might see the white people ascend the river to trade with his nation.' A mound was raised over him, on which food was regularly placed for many years after; but this has been discontinued, and the flag-staff which crowned it has been removed."—*James' Exp.*, vol. I., p. 204.

† *Gaz. of Mo.*, p. 308; *James' Exp.*, vol. II., p. 84. This is probably the same mound referred to by Mr. Sibley, who derived his information from a chief of the Osages. "He stated that the mound was built, when he was a boy, over the body of a chief, called Jean Defoe by the French, who unexpectedly died while his warriors were absent on a hunting expedition. Upon their return they heaped a mound over his remains, enlarging it at intervals for a long period, until it reached its present height."—*Featherstonhaugh's Trav.*, p. 70.

accompanying the President's message for 1806, of a "mound of considerable size," erected by the Natchez Indians, near Nachitoches, when they were expelled from Louisiana in 1728. They are also said to have fortified themselves near this place. Mr. Catlin observed a conical mound, ten feet in height, at the celebrated pipe-stone quarries of the *Coteau des Prairies*, which had been erected over the body of a young chief of the Sionx tribe, who had been accidentally killed on the spot.* James also presents, upon what he deems good authority, an account of the discovery by a hunting party, in 1816, on the banks of the Le Mine river in Missouri, of a newly-made mound; which, when opened, disclosed the body of a white officer, clothed in regimentals, placed in a sitting posture on a mat, and surrounded by a rude inclosure of logs, twelve feet long, three wide and four high. He had evidently met a violent death, and had been scalped.† To what nation he belonged, and by whom the mound was erected, is unknown. The Mandans sometimes constructed little mounds of earth, not however for burial. They were connected, in some mysterious way, with their ceremonies for the dead. "Their dead," says Catlin, "are placed, closely enveloped in skins, upon scaffoldings, above the reach of wild animals. When the scaffolds decay and fall to the ground, the nearest relatives bury the bones excepting the skull. The skulls are arranged in circles of a hundred or more, on the prairies, with their faces all looking to the centre. In the centre of each ring is erected a little mound, three feet high, on which are placed two buffalo skulls, a male and female, and in the centre is reared a medicine pole, supporting many curious articles of mystery and superstition, which they suppose to have the power of guarding and protecting this sacred arrangement. Here the relatives of the dead resort to hold converse with them, bringing a dish of food, which is set before

* N. A. Indians, vol. II. p. 170. † Narrative, vol. I., p. 84.

the skull at night, and taken away in the morning. Under each skull is constantly kept a bunch of fresh wild sage.*

The Indians, it is well known, often heaped a pile of stones over the graves of such of their tribe as met their death by accident, or in the manner of whose death there was something sufficiently peculiar to excite their superstition. Such was the case, in one instance, in Schoharie county, on the Cherry Valley trail. But the construction of mounds, whether for purposes of burial or as monuments, except, perhaps, among some of the Southern tribes, was far from common, and cannot be regarded as a custom of general acceptance. The few which they built were clearly, in most instances, the result of caprice, or of circumstances; and we are not justified in ascribing to them more than a very trifling proportion of the numerous tumuli which dot over the plains and valleys of the West, and which in their numbers, and uniformity of structure and contents, give conclusive evidence that they were constructed for specific purposes, in accordance with a well-recognized design, and an established and prevailing custom.

The practice of depositing the property of the dead in the tomb with them, (almost universal among the American Indians,) is of the highest antiquity. "In all early ages," remarks an erudite writer, "when the disengaged activity of man ever carries a keen and military edge with it, and his great employment is necessarily war and the chase, the weapons of both would naturally be deposited with the dead." We have a striking passage of Scripture, which shows the custom to have been as general as the spirit of ambition or the profession of arms. "They shall not lie down with the mighty which are gone down to hell [the grave] with their weapons of war; and they have laid their swords under their heads." Josephus tells us, that in David's sepulchre was deposited such a quantity of treasure, that Hyrcanus, the Maccabean, took 3000 talents out of it,

* N. A. Indians, Vol. I., p. 90.

about 1300 years after David's death, to get rid of Antiochus, then besieging Jerusalem.

Uniformity in the rites and ceremonies attending burial must not, however, be regarded as necessarily implying connections or relations between the nations exhibiting them, for most, if not all of those which may be esteemed of importance, had their origin in those primitive conceptions and notions which are inherent in man, and are in no wise derivative. In the universal recognition of a future existence, may be traced the origin of the immolations and sacrifices made at the tombs or on the pyres of the dead; the wife and the faithful servant sought to accompany their lord in his future life; and a numerous retinue was slain at the tomb of the Scythian King and the Peruvian Inca, that they might appear in a future state with a dignity and pomp becoming their earthly greatness. The Mexican slew the *techieki* at the grave of the dead, that his soul might have a companion in its journey along the dreary, terror-infested pathway, which, according to their superstitions, intervened between earth and the "blessed mansions of the sun." So, too, was the faithful dog of the Indian hunter placed beside him in the grave, that in the blissful "hunting grounds of the West," he might "bear him company." The warlike Scandinavian had his horse sacrificed on his funeral pyre, and his weapons buried with him, so that, full-armed and mounted, he might, with becoming state, approach the halls of Odin.—(*Mallet*, Chap. xii.) In the almost universal belief that the soul of the dead, for a longer or shorter period, lingered around the ashes from which it was separated, we may discover the reason why food and offerings were deposited at the grave; why it was carefully preserved, and why, at stated intervals, the surviving relatives of the deceased decked it with flowers and performed games around it. In some of these ceremonies it was believed the departed spirit silently participated, and with all, it was supposed to be pleased and gratified.

CHAPTER V.

IMPLEMENTS, ORNAMENTS, ETC.

MOST of the minor relics of art discovered in the State of New York, are such as are known to have been common among the Iroquois and other tribes which once occupied its territories. The character of these is so well known as to render unnecessary any detailed notice of the various articles obtained in the course of the explorations here recorded. A brief reference to the more remarkable specimens is therefore all which will be attempted.

Upon the site of every Indian town, as also within all of the ancient inclosures, fragments of pottery occur in great abundance. It is rare, however, that any entire vessels are recovered. Those which have been found, are for the most part gourd-shaped, with round bottoms, and having little protuberances near the rim, or oftener a deep groove, whereby they could be suspended. A few cases have been known in which this form was modified, and the bottoms made sufficiently flat to sustain the vessel in an upright position. Fragments found in Jefferson county seem to indicate that occasionally the vessels were moulded in forms nearly square, but with rounded angles. The usual size was from one to four quarts; but some must have contained not less than twelve or fourteen quarts. In general there was no attempt at ornament; but sometimes the exteriors of the pots and vases were elaborately if not tastefully ornamented with dots and lines, which seem to have been formed in a very rude manner with a pointed stick or sharpened bone. Bones which appear to have been adapted for this purpose are often found. After the commencement of European intercourse, kettles and vessels of iron, copper, brass, and tin,

quickly superseded the productions of the primitive potter, whose art at once fell into disuse. Pipes and various articles of clay, which may be denominated *terra cottas*, continued, nevertheless, to be made. The pipes of native manufacture were preferred, as they still are, to those of European or American production. After the introduction of tools, and as soon as the Indians became acquainted with foreign models, great improvement was made in their manufacture. The following examples will furnish very good illustrations of the forms of the Indian pipe.



FIG. 14.

Fig. 14 was found within an inclosure in Jefferson county, Plate IV., No. 4. It is engraved one half the size of the original. It is of fine red clay, smoothly moulded, and two serpents, rudely imitated, are represented coiling around the bowl. Bushels of fragments of pipes have been found within the same inclosure. Some appear to have been worked in the form of the human head, others in representations of animals, and others still in a variety of regular forms.



FIG. 15.

Fig. 15 was found within another inclosure in the same county. It differs from the first only in respect of size.

Fig. 16 was found on the site of an old Seneca town, in the



FIG. 16.

town of Livonia, Livingston county. It resembles the other in shape, but is of darker color, and not so well burned. The difference to be observed between it and the others may be ascribed entirely to the difference in the clay composing it.



FIG. 17.

Fig. 17. This is a greatly reduced representation of an article of stone found near Mount Morris, in Livingston county, and now in the New York State Cabinet at Albany. It is composed of steatite or "soap stone," and in shape corresponds generally with the pipes of stone found in the mounds of the Mississippi Valley. If intended for a pipe, which seems most likely, it was never finished, as the cavity of the bowl is merely indicated. One or two pipes of stone of very nearly the same shape have been found in this vicinity, but in point of symmetry or finish they are in no way comparable to those of the mounds.

Some pipes of precisely the same material, and of identical workmanship with those found in the ancient inclosures, have been discovered in modern Indian graves, in Cayuga county. One of these, in the form of a bird, and having eyes made of silver inserted in the head, is now in possession of the author. Various articles of European or American manufacture were found in the same grave.

The most beautiful *terra cotta* which I found in the Stato, and which in point of accuracy and delicacy of finish is unsurpassed by any similar article which I have seen of aboriginal origin, is the head of a fox, of which Fig. 18 is a full-size engraving. The engraving fails in conveying the spirit of the



FIG. 18.

original, which is composed of fine clay, slightly burned. It seems to have been once attached to a body, or perhaps to a vessel of some kind. It closely resembles some of the terra cottas from the mounds of the West and Southwest. It was found upon the site of an ancient inclosure in Jefferson county, in the town of Ellisburgh, near the beautiful village of Pierrepont Manor.

Figs. 19 and 20 were found upon the site of an abandoned Seneca village, in the town of Mendon, Monroe county. The spot is now known as the "Ball Farm," and is remarkable for the number and variety of its ancient relics. Vast quantities of these have been removed from time to time. Some of the

miniature representations of animals found here are remarkable for their accuracy.



FIG. 19.



FIG. 20.

The stone ax or hatchet may be found from Cape Horn to Baffin's Bay. Specimens taken from the intervening localities can be distinguished from each other only by the difference of the materials of which they are composed. I have found them in Nicaragua precisely resembling those of New York. Little, therefore, need be said concerning them. Fig. 21 was obtained in the vicinity of an ancient work on the Susquehanna River, in Pennsylvania, near the New York State line. It is remarkable for its symmetry and size, and also for the manner in which it is hollowed upon the inner



FIG. 21.

side. This last-named feature is well indicated in the engraving.

Figs. 22 and 23 present a front and reverse view of a very fine stone ax, found in Livingston county, near Avon Springs.



FIG. 22.



FIG. 23.

The material is of intense hardness, resembling porphyry. It is, nevertheless, worked with mathematical accuracy, and highly polished. The edge is very sharp. It is as fine a specimen of the Indian stone ax as ever fell under my notice.

Fig. 24 is of a greenish-colored slate, and resembles a kind of ornamental hatchet, made of delicate material, which is found at the South and West. It was obtained near Springport, Cayuga county. For examples of similar articles, the reader is referred to the first volume of the Smithsonian Contributions to Knowledge, p. 218.



FIG. 24.

One of the most interesting relics which has yet been discovered in the State, is an ax of *cast copper*, of which Fig. 25

is a reduced engraving. The original is four inches long by two and a half broad on the edge, and corresponds in shape with some of those of wrought native copper, which have been found in the mounds of Ohio. From the granulations of the surface, it appears to have been cast in sand. There is no evidence of its having been used for any purpose. Its history, beyond that it was ploughed up somewhere in the vicinity of Auburn, Cayuga county, is unknown. No opportunity has yet been afforded of analyzing any portion, so as to determine whether it has an intermixture of other metals. It appears to be pure copper. An inspection serves to satisfy the inquirer that it is of aboriginal origin; but the questions when and by whom made, are beyond our ability to answer. There is no evidence that the



FIG. 26.

mound-builders understood the smelting of metals; on the contrary, there is every reason to believe that they obtained their entire supply in a native state, and worked it cold. The Portuguese chronicler of Soto's Expedition into Florida, mentions copper hatchets, and rather vaguely refers to a "smelting of copper," in a country which he did not visit, far to the northward, called "Chisca." The Mexicans and Peruvians made hatchets of copper alloyed with tin. It would seem that this hatchet was obtained from that direction, or made by some Indian artisan after intercourse with the whites had instructed him in the art of working metals. At present it is prudent to say that the discovery of this relic is an anomalous fact, which investigators should only bear in mind, without venturing to make it the basis of deductions or inferences of any kind.

Fig. 26 is an example of the iron ax introduced among the Indians by the French. Thousands of these are found in the western counties of the State.

Figs. 27, 28, and 29 are selected by the author from the collection of relics made in the progress of these explorations, from their resemblance to relics of common occurrence in the mounds of the Mississippi Valley. Fig. 27 is almost identical in shape and material with some of the articles from the mounds, described on page 237 of the

first volume of the Smithsonian Contributions. The same may be observed of Fig. 28. The material is the green, variegated slate, of which so many of the above-named relics are composed. No. 27 was found near Scottsville, Wheatland township, Monroe county; and No. 28, near Springport, Cayuga county. Near this



FIG. 26.



FIG. 27.



FIG. 28.

place. also, was found the disk, Fig. 29. It is of green slate, and corresponds entirely with those described on page 221 of the same volume with the preceding.

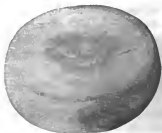


FIG. 29.

Fig. 30 is the point of a fish-spear, made of the ulna of the deer; found in Livingston county.



FIG. 30.

Figs. 31 and 32 are of the same material, and were used as bodkins, or for working clay; found in Jefferson county.



FIG. 31.



FIG. 32.

Besides these relics, quantities of beads of stone, bone, and shell, ornaments of many kinds and of various materials, as also implements of aboriginal, or European, or American fabric, are found all over the State, but in more abundance in the western counties. They are not of sufficient importance to merit a detailed notice, and are chiefly interesting as relics of a race fast disappearing, and whose existence will soon be known to history alone. It is to be hoped that, however insignificant they may seem, they may be carefully preserved and treasured for public inspection, in places or institutions designated for the purpose.*

In the preceding pages, several places have been mentioned, where it appears that various branches of aboriginal art were specially carried on. Such was the case at the point opposite Tonawanda island, on the banks of the Niagara River, where

* I am glad to have it in my power to say, that at the urgent suggestion of Mr. L. H. Morgan, of Rochester, sustained by the recommendations of other citizens of the State, the Regents of the University of New York have not only determined to establish a "Historical and Antiquarian Collection," in connection with the State Cabinet of Natural History, but have already made a very creditable beginning. "But few remains of the skill and industry of our predecessors," says Mr. Morgan, in his letters to the Regents, "have come down to us to illustrate the era of Indian occupation. The low state of the arts which existed among them, detracts from the interest with which their relics would otherwise be invested. Such specimens of their arts as we discover are rude to the last degree, and bespeak a social condition of extreme simplicity. But as illustrations of the state of the aborigines, and as furnishing the unwritten history of their social existence, however inconsiderable they may be in every ordinary sense, they should be sought out and preserved. * * * The utmost efforts of a single person would accumulate but a small cabinet. Numerous individuals in the State have, however, small collections, which singly have little interest, but which, if brought together, would become valuable, and there is every reason to believe that most of these would be cheerfully surrendered to a general cabinet." It is to be hoped that every citizen of the State who may be possessed of relics of any kind, will take means to place them in the State Collection.

the great quantities of flint chippings show there was once a kind of manufactory of arrow-heads. These seem to have been made of the *chert*, so common among the limestone formations of that region. At various places at the West, are found the quarries where the ancient inhabitants obtained the material for the manufacture of their arrow and spear-points. Upon the line of the calcareo-silicious deposit, extending through Licking and Muskingum counties in Ohio, constituting what is called "Flint Ridge," are numerous traces of Indian operations. The material found here is admirably adapted for the purposes desired, and arrow-heads manufactured from it are to be found in Kentucky, Indiana, Illinois and Michigan. "The compact silicious material of which this ridge is made up," says Dr Hildreth in the Geological Report of Ohio, "seems to have attracted the notice of the aborigines, who have manufactured it largely into arrow and spear-heads, if we may be allowed to judge from the numerous circular excavations which have been made in mining the rock, and the piles of chipped quartz lying on the surface. How extensively it has been worked for these purposes, may be imagined from the countless number of the pits; experience having taught them that the rock recently dug from the earth, could be split with more freedom than that which had lain exposed to the weather. These excavations are found the whole length of the outcrop, from Jackson to Muskingum, but more abundantly at "Flint Ridge," where it is most compact and diversified with rich colors. To the present inhabitants it is valuable as furnishing a fine article for mill-stones."

Mr. J. W. Foster, in his report, alludes to the same locality as follows:

"The stone is fine grained and compact. The aborigines used it for spear and arrow-heads. They seem to have been aware that it works more freely when freshly dug from the earth, than after exposure to the air. They have therefore stripped off the earth to the depth of eight or ten feet. Excavations of

this kind, occupying acres in extent, occur three miles west of H. Lear's, on the 'Flint Ridge' road."

This locality has a remarkable parallel in what are called the "Pen Pits," in South Wiltshire, England. These cover an area of several hundred acres, and are supposed to have been dug in order to procure a variety of hard green-stone, (a quarry of which underlies the plain,) for the construction of the ancient Celtic *querns* or mill-stones, fragments of which, partially worked, are found scattered about.*

Mr. Featherstonhaugh describes some ancient quarries of the mineral, which he visited, about three miles from the Hot Springs of Arkansas.

"Ascending a very lofty hill, composed entirely of this mineral, [novaculite?] we found several large pits, resembling inverted cones, some of which were from twenty to thirty feet deep and as many in diameter, the insides and bottoms of which were covered with chips of this beautiful mineral, some white, some carmine, and many quite opalescent. In and near these pits, round and long pieces of hard green-stone—which I had seen in a place about eighteen miles distant—were scattered about, but none of these too large for the hand. These were undoubtedly the quarries from whence the Indians obtained the materials for making their arrow-heads and spears. The pieces of hard green-stone were the tools which the Indians worked with, and the rough mineral, when procured, was taken to their villages to be manufactured."†

Edwin James, the Naturalist of Long's expedition, mentions an island in the Ohio, 23 miles below the rapids, called "Flint Island," from the great quantities of fragments of that material found upon it. He supposes it to have been a particular resort

* Hist. Auct. Wiltshire, vol. I., p. 35.

† Travels in America, p. 111.

for the manufacture of spear and arrow-heads, by the aborigines.*

The manufacture of pottery is the simplest of arts, and its practice in different localities, affords no evidence whatever of derivative character. It would naturally be suggested by the impressions made in the moist clay or soil, by the hands or feet, and would first be practiced where the proper material most abounds, as in the valleys of great rivers. This suggestion is corroborated, by our finding the earliest fetile establishments in the neighborhood of rivers, more or less subject to periodical inundation; the Babylonians, the Egyptians and the Etrurians became potters from their vicinity to the Euphrates, the Nile and the rivers of Northern Italy. In their shape, the vessels of the primitive manufacturer would be most apt to take the form of the natural models he might observe around him. The type of the earliest and rudest productions, was the shell of a nut or the rind of some of the pumpkin tribe; and this to such an extent, that those acquainted with the vegetable productions of different countries, are generally able, at a glance, to identify their productions in pottery. Those who have examined the collection in the Museum of Sévers, will perceive that the distinctive characters of Asia, Africa and America, are marked on the potteries of their less-civilized inhabitants. The second type—one that marks considerable progress—is the female bust, with sometimes an attempt to preserve its character as symbolic of

* Narrative, vol. I., p. 30.

"A hunter or warrior, it is true, expected to make his own arms or implements, yet the manufacture of flint and hornstone into darts, and spears, and arrow-heads, demanded too much skill and mechanical dexterity, for the generality of the Indians to succeed in. According to the Chippeway tradition, before the introduction of firearms, there was a class of men among the northern tribes who were called *Makers of Arrow-heads*. They selected proper stones, and devoted themselves to this art, taking in exchange for their manufactures, the skins and flesh of animals."—*Schoolcraft*.

fecundity and abundance. This graceful type was carried to a voluptuous excess by the Greeks. Other subordinate types of form, suggested by eggs, shells, etc., might be noticed. Sufficient has been said, however, to enforce the remark made at the commencement of this paragraph, and to show how unsafe would be the attempt to deduce dependences or connections, upon so narrow a basis as simple coincidences in the potteries of detached nations.

It may be remarked, incidentally, that the degree of skill exhibited in the pottery from the mounds of the West, could only be the result of long practice. The hunter could not have laid aside the bow, and produced works of so much symmetry and so excellent finish. We are justified, therefore, in the belief, that the manufacture, in this department, devolved upon a class of professional potters, or, at any rate, that it was in the hands of persons, whose experience extended beyond the simple supplying of their individual wants with works of this description.

In all the various specimens of aboriginal pottery which have fallen under notice, we find no evidence of the use of the potters' wheel. Notwithstanding the regularity of figure and uniformity of thickness which many of the specimens exhibit, it is evident that they were all moulded by hands.

In the immediate vicinity of some of the salt springs, quantities of broken pottery are often found. This feature has been particularly observed near the Illinois, Missouri, and Ohio Salines. Breckenridge states, that, in clearing out the Saline below St. Genevieve, in Missouri, some years ago, "wagon-loads of earthenware, some fragments bespeaking vessels as large as a barrel," were found.* These remains have generally been regarded as pertaining to the race of the mounds, on the assumption that the more recent tribes were unacquainted with the art of manufacturing salt, if they were not entirely ignorant

of its uses. This is a mistake. We have direct evidence that, at the very earliest periods of European intercourse, they were accustomed to manufacture that article. It is specially referred to, and the process described by the unknown historian of De Soto's expedition.* The Salines in Jackson county, Ohio, (23 miles from Chillicothe,) exhibit proofs of having been worked, not only in the presence of broken pottery, but by excavations in the rock, in which the brine was collected. These excavations, resembling "pot holes," are specially remarkable at the ancient and noted "Scioto Saline," in the county above-named. Dr. Hildreth describes them as follows.

"When the white hunters and traders came to this country, it was visited by thousands of buffalo, deer, bears, and nearly all the wild animals of the forest, who found the saline waters agreeable to their tastes or needful for their health. So numerous and so constant were the animal visitors of these springs, that, at certain seasons of the year, the country adjacent was the most valuable and profitable hunting ground which the Indians possessed. They were also in the habit of making salt here from very remote times, as has been ascertained from several of their white captives, who had visited them in company with the Indians. The first attempt at its manufacture by the whites, was after the close of the Indian war, in the year 1797. At that time, and for several years after, the stumps of small trees cut by the squaws, and the ashes, etc., of their fires, where the salt water had been boiled, were plainly to be seen. The Indian women, upon whom all the servile employments fell, collected the salt water by cutting holes in the soft sandstone in the bed of the creek, in the summer and autumn when the water was low. These were generally not more than a foot or two deep, and the same in width. Into these rude cavities the salt water slowly collected, and was afterwards dipped out and boiled into salt in their vessels. The hunters and first salt

* Hakluyt's Trans., pp. 736, 749, *ubi supra*.

makers pursued the same course, only they sunk their excavations to the depth of six or eight feet, and finally to the depth of twenty feet into the rock."^{*}

It will be seen that the Salines possessed peculiar attractions for the modern tribes. The abundance of their relics, therefore, in such localities is a matter of no surprise.†

* First Annual Report of Geolog. Surv. of Ohio, p. 57.

† The subjoined passages, from various authors, relating to the manufacture of pottery by the existing Indians, no doubt indicate, with great exactness, the modes adopted by the ancient tribes.

"The earthenware is formed by the women, who not only form the vessel, but dig and mix the clay. In this they are tolerable artists; they make kettles of an extraordinary size, pitchers with a small opening, gallon bottles with long necks, pots or pitchers, for their bear-oil, which will hold forty pints—lastly, large and small plates in the French fashion."—*Du Prat's Hist. of Louis.*, p. 360.

"In manufacturing their pottery for cooking and domestic purposes, they collect tough clay, beat it into powder, temper it with water, and then spread it over blocks of wood, which are formed into shapes to suit their convenience or fancy. When sufficiently dried, they are removed from the moulds, placed in proper situations and burned to a hardness suitable to the intended uses. Another method practiced by them, is to coat the inner surface of baskets of willow or rushes with clay to any required thickness, and when dry to burn them as above described. In this way they construct large, handsome, and tolerably durable ware; though, latterly, with such tribes as had much intercourse with the whites, it is not much used, because of the substitution of metal ware in their stead.

"When the vessels are large, as in the case for the manufacture of sugar, they are suspended by grape-vines, which, when exposed to the fire, are constantly kept covered with moist clay. Sometimes the rims are made strong, and project a little inwardly, quite round the vessels, so as to admit of their being sustained by flattened pieces of wood, slid underneath these projections, and extending across the centres."—*Hunter's Memoirs of a Captivity among the Indians*, p. 289.

"They make earthen pots of very different sizes so as to contain from two to ten gallons; large pitchers to carry water, bowls, dishes, platters, basins, and a prodigious number of other vessels of such antiquated forms as would be tedious to describe, and impossible to name.

Great numbers of beads, some of late and others of ancient origin, are scattered all over the sites of Indian occupancy in New York. These ornaments have predominated in every age, and among every people, and still maintain their popularity in the most refined communities—one of the relics of the rude state from which all people have, at some period, advanced. The American nations, the hunter tribes no less than the consolidated communities of the centre of the continent, were profuse in their use of this species of ornament. The poor but intrepid hunter of the bleak Narraganset was as proud of his rude "braveries" of shell, patiently rubbed into the required shape on the rocks, as the regal Aztec with his necklace of pearls, relieved with gold and gems. The unknown builders of Palenque and the other Palmyras of the tangled evergreen forests of the south, have left engraven upon their sculptured edifices and elaborate statues, the evidence of the importance assigned to this class of ornaments in the list of preserved decorations of their day. So, too, have the mound-builders

Their method of glazing them is, they place them over a large fire of smoky pitch pine, which makes them smooth, black, and firm. Their lands abound in proper clay for that use."—*Adair*, p. 424.

"Their pots and boilers are made of clay, mixed with pounded sea-shells, and burned so hard that they are black throughout."—*Leskies*, p. 54.

"The earthen dishes are made by the Mandan women in great quantities, and modeled in a thousand forms and tastes. They are made from a tough, black clay, and baked in kilns which are made for the purpose, and are nearly equal in hardness to our own manufacture of pottery, though they have not yet got the art of glazing. They make them so strong and serviceable, however, that they hang them over the fire as we do our iron kettles, and boil their meat in them with perfect success. I have seen some few specimens of such manufacture dug up from mounds and tombs in the southern and middle states, which were looked upon as a great wonder; when here, this novelty is at once done away with, and the whole mystery; where women can be seen handling them by hundreds, moulding them in fanciful forms, and passing them through the kilns."—*Catlin's N. A. Indians*, vol. I., p. 116.

left us beside the bones of their dead, and upon the ancient altars of their religion, the evidence that they fully shared the general taste.

One form of bead, the wampum, or *seawant*, *peak*, or *roanok* of the North American Indians, not only constituted the most common ornament of their persons, but subserved the purposes of a currency, and figured in their operations of war and peace. Like the *quippos* of Peru, the wampum was sometimes used to commemorate or record events, and was also regarded as sacred. "The strings and belts of wampum," says Loskiel, "are also documents by which the Indians remember the chief articles of treaties made either between themselves or the white people. They refer to them as public records, carefully preserving them for that purpose. At certain seasons they meet to study their meaning, and to renew the ideas of which they were an emblem and confirmation." It is said that the Delawares once kept an account of time by putting a bead of wampum every year upon a belt kept for that purpose. In the records, beads of a certain color were assigned a particular meaning, and their arrangement and the figures which their combination furnished, were the mnemonic symbols by which circumstances and events were recalled. Red was the emblem of war, white of peace. Thus if it were designed to give warning of an approaching evil, or to send an earnest remonstrance, a black belt was delivered; if to declare war, a red belt wrought with the figure of a hatchet in white, etc.—(*Smith's Hist. of New York. Charlevoix' Canada*, vol. I., p. 320.) In treaties, the exchange of a wampum belt was equivalent to a ratification. A certain number of fathoms was a tribute to powerful neighbors. In its use as a currency, separate values were assigned to the different colors; the black was double the value of the white. Its manufacture was open to all who chose to engage in it, and its use so general, that the early colonists in New England, New York, and Virginia, adopted it in their exchanges. The revenues of the colonies were sometimes paid in it, and

appropriations of a certain amount of *wampog* are to be found in the early Legislative records of Connecticut, and probably of other States. Among the Dutch of New Netherlands, six white beads of wampum, or three brown or black beads, were equivalent to a *stiver*, and received as such.*

These beads were made of the compact portions of shells. If of marine shells the columella alone was used. Says Van der Donk, in his history of New Netherlands: "The wampum is made of conch-shells, which are taken from the sea, or which are cast ashore twice a year. They strike off the thin portions of these shells, and preserve the pillars or standards, which they grind even and smooth, and reduce the same to uniform thickness, and drill a hole through every piece, and string the same on strings, which they afterward sell. This is the only article of moneyed medium among the natives, with which any traffic can be driven; and it is also common with us in purchasing necessities and carrying on our trade; many thousand

* Mr. Schoolcraft, in his "Notes on the Iroquois," suggests an antiquarian nomenclature, the principle of which he applies to a limited extent, in the classification of certain relics, chiefly ornamental. The radical names are introduced from the Indian vocabulary, qualified by epithets drawn either from the same source or the English—constituting terms "which shall, as far as practicable, be descriptive in their character." The design is stated to be, "to render antiquarian examination exact, and facilitate comparison," so as to relieve archaeological inquiry from much of the vagueness which attends it. The object is certainly a desirable one; but whether it could be attained in the manner proposed is, at least, doubtful. In the very limited application of the system attempted by Mr. Schoolcraft, out of nine radical divisions or classes, we have no less than seven, each embracing several subdivisions or varieties, which comprise in their whole range only such articles as might be defined with sufficient exactness, as *beads* and *pendants*. Whether archaeological science would be greatly advanced by the substitution of "*Medäcka Dental*" for *perforated bear's tooth*, or "*Altajéguna Deoscorea*" for *Stone mortar*, is a question which the student of natural history, floundering in the sea of modern scientific nomenclature, is best able to answer.

strings are exchanged every year for peltries near the sea-shore, where the wampum is only made, and where the peltries are brought for sale." After the introduction of glass and enamel beads by the traders, the wampum deteriorated in value, and became quite restricted in its use and manufacture. Catlin mentions, as a singular fact, that the far west Indians make no use of it, while along the frontier, below the Missouri Sioux, the different tribes are found loaded down and beautifully ornamented with it. With the introduction of the traders' tinsel, the wampum has lost its significance, and it is believed is no longer used for records, or in the transmission of messages of peace or defiance.

Some of the beads found in the mounds, bear a close resemblance to those in use among the Southern Indians. Adair describes large cylindrical beads, "made of the conch-shell, about the length and thickness of a man's forefinger," which bore a near resemblance to ivory, and were attached to the crown of the head, and "so highly valued, that four deer-skins was the price paid for them."* The same author adds: "Before we supplied them with our European beads, they had great quantities of wampum, made out of the conch-shell, by rubbing on the hard stones, and so they form them according to their liking. These are bought and sold for a stated current rate, without variation for time or circumstances."

The late Prof. Troost, of Nashville, Tenn., found similar beads in the so-called "*pigmy graves*" in that vicinity; he also found beads composed of the shells of the *marginella*, which, like many of those found in Ohio, were ground in such a manner that a string could pass through their mouth and perforated back. He observes: "Other beads were made of the columella of the

* Ornaments, doubtless very similar to these, and called *Runters* were common among the Virginia Indians. Beverly describes these in a summary way as "made of shell, as the *Peak* is, only the shape is flat and round like a cheese, and they are drilled edgeways." *Hist. Va.* p. 145.

strombus gigas: I am positive it was of that part of this shell, as I have found these beads in all stages of manufacture from commencement to completion. These columella are often found on the shores of the West Indies; when the animal of these shells is dead, the shell is constantly rolled and worn down by the waves on the beach, so that the outside and interior whorls soon disappear, and nothing but the solid columella remains. Such columella I have found in a partially decomposed state in the graves—I have found these artificially worn down to a uniform thickness, and perforated through the centre—I have found them cut in pieces of the size of the beads, and I have found the beads perfect." Professor Troost remarks further that "these are tropical shells, and could not, therefore, have been obtained from the North, nor have been found in the interior of the country; they could not have been bought of traveling peddlers, because it is not to be supposed that such rude people knew anything of commerce; the aborigines must, consequently, themselves have brought them from those southern regions—not during their hunting excursions, for we are about 2000 miles from the places where they are found." Prof Troost probably under-estimates the extent of exchange and transfer among even very rude tribes; supposing, however, the race occupying the stone graves, to be the same which built the mounds, (as certain coincidences in the character of their remains would seem to indicate,) and his conclusion is sustained by developments from the mounds on the Ohio, which are irresistible in their tendency—establishing a migration from the South, or an alternative altogether opposed to a natural or probable course of events. Mr. T. Conrad (American Journal of Science and Arts, New Series, vol. II., p. 41) mentions the *strombus gigas* as occurring on the coast of Florida, but not above the latitude of Tampa Bay.

CHAPTER VI.

OBSERVATIONS ON THE PROBABLE ORIGIN OF THE ABORIGINAL MONUMENTS OF NEW YORK.

By whom were the aboriginal monuments of Western New York erected, and to what era may they be ascribed? The consideration of these questions has given rise to a vast amount of speculation, generally not of the most philosophical, nor yet of the most profitable kind. If the results arrived at have been erroneous, unsatisfactory, or extravagant, it may be ascribed to the circumstance that the facts heretofore collected have been too few in number and too poorly authenticated to admit of correct conclusions, not less than to the influence of preconceived notions, and to that constant leaning toward the marvelous, which is a radical defect of many minds. Rigid criticism is especially indispensable in archaeological investigations; yet there is no department of human research in which so wide a range has been given to conjecture. Men seem to have indulged the belief that here nothing is fixed, nothing certain, and have turned aside into this field as one where the severer rules which elsewhere regulate philosophical research are not enforced, and where every species of extravagance may be indulged in with impunity. I might adduce numberless illustrations of this remark. The Indian who wrought the rude outlines upon the rock at Dighton, little dreamed that his work would ultimately come to be regarded as affording indubitable evidence of Hebrew, Phœnician, and Scandinavian adventure and colonization in America; and the builders of the rude defences of Western New York, as little suspected that Celt and Tartar, and even the apocryphal Madoc with

his "ten ships," would, in this the nineteenth century of our faith, be vigorously invoked to yield paternity to their labors!

The probable purposes to which these works were applied are, perhaps, sufficiently evident from what has already been presented. Their positions, general close proximity to water, and other circumstances not less conclusive, imply a defensive origin. The unequivocal traces of long occupancy found within many of them, would further imply that they were fortified towns and villages, and were permanently occupied. Some of the smaller ones, on the other hand, seem rather designed for temporary protection—the citadels in which the builders sought safety for their old men, women, and children, in case of alarm or attack.

In respect to date nothing positive can be affirmed. Many of them are now covered with heavy forests; a circumstance upon which too much importance has been laid, and which in itself may not necessarily be regarded as indicative of great age, for we may plausibly suppose that it was not essential to the purposes of the builders that the forests should be removed. Still I have seen trees from one to three feet in diameter standing upon the embankments and in the trenches; which would certainly carry back the date of their construction several hundred years, perhaps beyond the period of the discovery in the fifteenth century. There is nothing, however, in this circumstance, nor in any other bearing upon the subject, which would necessarily imply that they were built by tribes anterior to those found in occupation of the country by the whites. And this brings us at once to the most interesting point of our inquiry, viz.: *By whom were these works erected?*

I have already mentioned that within them are found many relics of art and many traces of occupancy. These, I had ample opportunities of ascertaining in the course of my investigations, are absolutely *identical* with those which mark the sites of towns and forts known to have been occupied by the Indians, within the historical period. The pottery taken from

these sites and from within the supposed ancient inclosures, is alike in all respects; the pipes and ornaments are undistinguishable; and the indications of aboriginal dwellings are precisely similar, and, so far as can be discovered, have equal claim to antiquity. Near many of these works are found cemeteries, in which well-preserved skeletons are contained, and which, except in the absence of remains of European art, differ in no essential respect from the cemeteries found in connection with the abandoned modern towns and "castles" of the Indians. There are other not less important facts and coincidences, all of which go to establish that if the earth-works of Western New York are of a remote ancient date, they were not only *secondarily* but *generally* occupied by the Iroquois or neighboring and contemporary nations; or else—and this hypothesis is most consistent and reasonable—they were erected by them.

It may be objected, that if the Indians constructed works of this kind, it could not have escaped the notice of the early explorers, and would have been made the subject of remark by them. The omission is singular, but not unaccountable. They all speak of the defences of the Indians as composed of palisades firmly set in the ground. The simple circumstance of the earth being heaped up around them, to lend them greater firmness, may have been regarded as so natural and simple an expedient, as not to be deserving of special mention, particularly as the embankment, in such a case, would be an entirely subordinate part of the structure. After the introduction of European implements, enabling the Indians to plant their pickets more firmly in the ground, and to lend them a security before unattainable, the necessity for an embankment was in a great degree obviated. We may thus account for its absence in their later structures, which also underwent some modification of form, suggested by the example or instructions of the whites, or by the new modes of warfare following the introduction of firearms. Thus in the plan of the old Seneca

fort of *Ganundasaga*, we find distinct traces of the bastion—a feature observable in none of the more ancient defences.

I am aware that the remnants of the Indian stock which still exist in the State, generally profess total ignorance of these works. I do not, however, attach much importance to this circumstance. When we consider the extreme likelihood of the forgetfulness of ancient practices, in the lapse of three hundred years, the lack of knowledge upon this point is the weakest of all negative evidence. Cusick, the Indian, in his so-called "History of the Six Nations," has, no doubt, correctly described the manner in which they constructed their early defences. "The manner of making a fort: First, they set fire against as many trees as it requires to make the inclosure, rubbing off the coals with their stone axes, so as to make them burn faster. When the tree falls, they put fires to it about three paces apart, and burn it into pieces. These pieces are then brought to the spot required, and set up around, according to the bigness of the fort. *The earth is then heaped on both sides.* The fort has generally two gates, one for passage and one to the water." "The people," continues Cusick, "had implements with which they made their bows and arrows. Their kettles were made of baked clay; their awls and needles of sharpened bones; their pipes of baked clay or soft stone; a small turtle-shell was used to peel the bark, and a small dry stick to make fire by boring it against seasoned wood."

Colden observes of their defences, as they were constructed in his time: "Their castles are generally a square surrounded with palisades, without any bastions or outworks; for, since the general peace, their villages all lie open."*

In full view of the facts before presented, I am driven to a conclusion little anticipated when I started upon my exploration of the monuments of the State, that the earth-works of Western New York were erected by the Iroquois or their western neighbors, and do not possess an antiquity going very far

* History of the Five Nations, vol. I., p. 9.

back of the discovery. Their general occurrence upon a line parallel to and not far distant from the lakes, favors the hypothesis that they were built by frontier tribes—a hypothesis entirely conformable to aboriginal traditions. Here, according to these traditions, every foot of ground was contested between the Iroquois and the Gah-kwas and other western tribes; and here, as a consequence, where most exposed to attack, were permanent defences most necessary. It was not until after the Confederation, that the Five Nations were able to check and finally expel the warlike people which disputed with them the possession of the beautiful and fertile regions bordering the lakes; and it is not impossible that it was the pressure from this direction which led to that Confederation—an anomaly in the history of the aborigines. Common danger, rather than a far-seeing policy, may be regarded as the impelling cause of the consolidation.

In conclusion, I may be permitted to observe, that the ancient remains of Western New York, except so far as they throw light upon the system of defence practiced by the aboriginal inhabitants, and tend to show that they were to a degree fixed and agricultural in their habits, have slight bearing upon the grand ethnological and archaeological questions involved in the ante-Columbian history of the continent. The resemblances which they bear to the defensive structures of other rude nations, in various parts of the world, are the result of natural causes, and cannot be taken to indicate either a close or remote connection or dependence. All primitive defences, being designed to resist common modes of attack, are essentially the same in their principles, and seldom differ very much in their details. The aboriginal hunter and the semi-civilized Aztec selected precisely similar positions for their fortresses, and defended them upon the same general plan; yet it would be palpably unsafe to found conclusions as to the relations of the respective builders, upon the narrow basis of these resemblances alone.

CHAPTER VII.

ANCIENT WORKS IN PENNSYLVANIA, OHIO, AND NEW HAMPSHIRE.

WITHOUT the boundaries of the State of New York, there are works composed of earth, closely resembling those described in the preceding pages. Among these may be named the small earth-works of Northern Ohio, which the author himself was at one time led to believe constituted part of the grand system of the mound-builders.* The more extensive and accurate information which he has now in his possession concerning them, as also concerning those of Western New York, has led to an entire modification of his views, and to the conviction that they are all of comparatively late date, and probably of common origin.

Some similar works are said to occur in Canada; but we have no account at all satisfactory concerning them. One is mentioned by Laing (*Polynesian Nations*, p. 109), upon the authority of a third person, as situated upon the summit of a precipitous ridge, near Lake Simcoe, and consisting of an embankment of earth, inclosing a considerable extent of ground. Mr. Schoolcraft also states that there are some ancient enigmatical walls of earth in the vicinity of Dundas, which extend several miles across the country, following the leading ridges of land. These are represented to be from five to eight miles in length, and not far from six feet high, with passages at intervals, as if for gates (*Oneota*, p. 326). Our knowledge concerning these is too limited to permit any conjecture as to their design.

* Ancient Monuments of the Mississippi Valley, pp. 2, 46.

In the State of Pennsylvania, there are some remains, which may be regarded as the "outliers" of those of New York. They are confined to the upper counties. Those in the Valley of Wyoming are best known. They have, however, been lately so much obliterated, that it is probable they can be no longer traced. One of the number was examined and measured in 1817 by a gentleman of Wyoming, whose account is published by Mr. Miner, in his "*History of Wyoming*."

"It is situated in the town of Kingston, Luzerne county, upon a level plain, on the north side of Toby's Creek, about one hundred and fifty feet from its bank, and about half a mile from its confluence with the Susquehanna. It is of an oval or elliptical form, having its longest diameter from northeast to southwest, at right angles to the creek. Its diameters are respectively 337 and 272 feet. On the southwest side appears to have been a gateway, twelve feet wide, opening toward the great eddy of the river into which the creek falls. It consisted of a single embankment of earth, which in height and thickness appears to have been the same on all sides. Exterior to the wall is a ditch. The bank of the creek upon the side toward the work is high and steep. The water in the creek is ordinarily sufficiently deep to admit canoes to ascend to the fortification from the river. When the first settlers came to Wyoming, this plain was covered with its native forests, consisting principally of oak and yellow pine; and the trees which grew upon the work are said to have been as large as those in any part of the valley. One large oak, upon being cut down, was found to be 700 years old. The Indians have no traditions concerning these fortifications; nor do they appear to have any knowledge of the purposes for which they were erected."—(*Miner's History of Wyoming*, p. 25.) Traces of a similar work existed on "*Jacob's Plains*," on the upper flats of Wilkesbarre. "It occupied the highest point on the flats, which in the time of freshets appears like an island in the sea of waters. In size and shape it coincides with that already

described. High trees were growing upon the embankment at the period of the first settlement of the country. It is about eighty rods from the river, toward which opened a gateway; and the old settlers concur in stating that a well [cache?] existed in the interior near the southern line. On the banks of the river is an ancient burial-place, in which the bodies were laid horizontally in regular rows. In excavating the canal through the bank bordering the flats, perhaps thirty rods south of the fort, another burial-place was disclosed, evidently more ancient, for the bones crumbled to pieces almost immediately upon exposure to the air, and the deposits were far more numerous than in that near the river. The number of skeletons are represented to have been countless, and the dead had been buried in a sitting posture. In this place of deposit no beads were found, while they were common in the other."—(*Miner's History*, p. 28.)

Near this locality, which seems to have been a favorite one with the Indians, medals bearing the head of the First George, and other relics of European origin, are often discovered.

Still further to the northwest, near the borders of New York, and forming an unbroken chain with the works of that State, are found other remains. One of these, on the Tioga River, near Athens, was ascribed by the Duke de Rochefoucauld to the French, in the time of De Nonville! He describes it as follows:

"Near the confines of Pennsylvania, a mountain rises from the banks of the River Tioga, in the shape of a sugar-loaf, upon which are to be seen the remains of some entrenchments. These are called by the inhabitants the 'Spanish Ramparts,' but I judge that they were thrown up against the Indians, in the time of De Nonville. A breast-work is still remaining."—(*Travels in America*.) A similar work, circular or elliptical in outline, is said to exist in Lycoming county. Near it are extensive cemeteries.—(*Day's Hist. Coll.*, p. 455.)

In the New England States few traces of works of this kind

are to be found. There are, however, some remains in the State of New Hampshire, which, whatever their origin, are entitled to notice. The subjoined plan of one of these is from a sketch made in 1822 by Jacob B. Moore, Esq., late Libra-

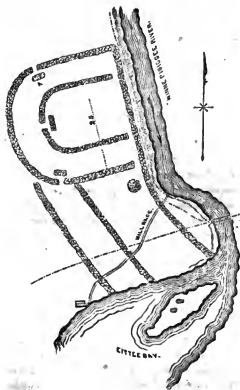


FIG. 33.

rian of the Historical Society of New York, who has also furnished the accompanying description.

"According to your request, I send the inclosed sketch and

memoranda of an ancient fortification, supposed to have been the work of the Penacook Indians, a once powerful tribe, whose chief seat was in the neighborhood of Concord, New Hampshire. The original name of the town was derived from that of the tribe. The last of the Penacooks long since disappeared, and with them have perished most of the memorials of their race. Enough has come down to us, however, in tradition, added to the brief notes of our historians, to show that the Penacooks were once a numerous, powerful, and warlike tribe. Gookin places them under the general division of the Pawtucketts, which he calls 'the fifth great sachemship of Indians.* Under the name of Penacooks, were probably included all the Indians inhabiting the valley of the Merrimaek, from the great falls at the Amoskeag to the Winnepiseogee Lake, and the great carrying-place on the Pemigewasset. That they were one and the same tribe, is rendered probable from the exact similarity of relics, which have been found at different places, and from the general resemblance of the remains of ancient fortifications, which have been traced near the lower falls of the Winnepiseogee, in Franklin and Sanbornton, and on the table-land known as the Sugar-Ball Plain, in Concord. Tradition ascribes to each the purpose of defence against a common enemy, the Maquaas or Mohawks of the west.

"The accompanying sketch was taken in pencil, on a visit to the spot, in company with the Hon. James Clark and several friends in the month of September, 1822. The remains are on the west side of the Winnepiseogee, near the head of Little Bay, in Sanbornton, New Hampshire. The traces of the walls were at that time easily discerned, although most of the stones had been removed to the mill-dam near at hand, on the river. On approaching the site, we called upon a gentleman (James Gibson) who had lived for many years near the spot, and of whom we learnt the following particulars: He had lived in Sanborn-

* Gookin, in Mass. Hist. Coll., I., 149.

ten fifty-two years, and had known the fort some time previous to settling in the place. When he came to the town to reside, the walls were two or three feet high, though in some places they had fallen down, and the whole had evidently much diminished in height, since the first erection. They were about three feet in thickness, constructed of stones outwardly, and filled in with clay, shells, gravel, etc., from the bed of the river and shores of the bay. The stones of which the walls were constructed were of no great size, and such as men in a savage state would be supposed to use for such a purpose. They were placed together with much order and regularity, and when of their primitive height, the walls must have been very strong—at least, sufficiently strong for all the purposes of defence against an enemy to whom the use of firearms was unknown.

“The site of the fortification is nearly level, descending a little from the walls to the bank of the river. West, for the distance of nearly half a mile, the surface is quite even. In front, or east, on the opposite side of the river, are high banks, upon which at that time stood a thick growth of wood. When the first settlers discovered the fort, there were oak trees of large size standing within the walls. Within the inclosure, and in the mound and vicinity, were found innumerable Indian ornaments, such as crystals cut into the round shapes of diamonds, squares, pyramids, etc., with ornamental pipes of stone and clay—coarse pottery ornamented with various figures—arrow-heads, hatchets of stone, and other common implements of peace and war.

“The small island in the bay appears to have been a burial-place, from the great quantity of bones and other remains disclosed by the plough, when settlements were commenced by the whites. Before the island was cultivated, there were several large excavations resembling cellars or wells discovered, for what purpose constructed or used, can of course only be conjectured. There is a tradition that the Penacooks, at the time

of their destruction by the Maquas, had three hundred birch canoes in Little Bay.

"After writing thus far, I addressed a note to the Hon. James Clark, of Franklin, New Hampshire, with inquiries as to the present state of these ruins. Mr. Clark was kind enough at once to make a special visit to the site of the ruins, in company with Mr. Bamford, son of one of the first settlers. The following is an extract from his reply :

"The remains of the walls are in part plainly to be traced; but the ground since our former examination has been several years ploughed and cultivated, so as to now give a very indistinct view of what they were at our previous visit, when the foundation of the whole could be distinctly traced. No mounds or passage-ways can now be traced. A canal to convey water to a saw and grist mill occupies the place of the mound marked *m*. The stones used in these walls were obtained on the ground, and were of such size as one man could lift; they were laid as well as our good walls for fences in the north, and very regular; they were about three feet in thickness and breast high when first discovered. The stones have been used to fill in the dam now adjoining. There were no embankments in the interior. The distance between the outer and inner wall was about sixty feet; the distance from the north to the south wall was about 250 feet, and from the west wall to the river about 220 feet. There were two other walls extending south to Little Bay. The general elevation of the ground was about ten feet above, and gently sloping to the river bank, which is about five feet above the water of the river. The distance between Great Bay and Little Bay is about 160 rods, with a gradual fall of fifteen feet. Here was a great fishing-place for the Indians.' Mr. Bamford states that he has heard his father and Mr. Gibson say, that on their first acquaintance with this place, they have seen three hundred bark canoes here at a time. This may have been in consequence of the number of bays and lakes near this place. Sanbornton was laid out and surveyed in

1750; but Canterbury, adjoining the bay, was settled as early as 1727.

"The remains of a fortification, apparently of similar construction to that above described, were some years since to be seen on the bluffs east of the Merrimack River, in Concord, on what was formerly known as Sugar-Ball Plain. The walls could readily be traced for some distance, though crumbled nearly to the ground, and overgrown with large trees."*

* "A mound 45 or 50 feet in diameter is situated on the northern shore of Ossipee Lake, New Hampshire. It is ten feet high, and was originally covered with timber. The earth is not like that of the meadow in which it stands, but of the adjacent plain. A slight excavation was made in it a number of years ago, in the course of which three entire skeletons were found, accompanied by two tomahawks and some coarse pottery. On the surrounding meadow were to be seen, when the ground was first cleared, the hills where the corn had anciently grown."—*Hist. and Mis. Coll. of N. H.*, vol. II., p. 47; *New Hampshire Gazetteer*, p. 207.

CHAPTER VIII.

GENERAL CHARACTER OF INDIAN DEFENCES.

THE fortifications of the savage or hunter tribes of North America are uniformly represented to have been constructed of rows of pickets, surrounding their villages, or inclosing positions naturally strong and easy of defence. The celebrated stronghold of the Narragansetts in Rhode Island, destroyed in 1676 by the New England colonists under Winthrop and Church, was an elevation of five or six acres in extent, situated in the centre of a swamp, and strongly defended by palisades. It was of extraordinary size, and inclosed not far from six hundred lodges.

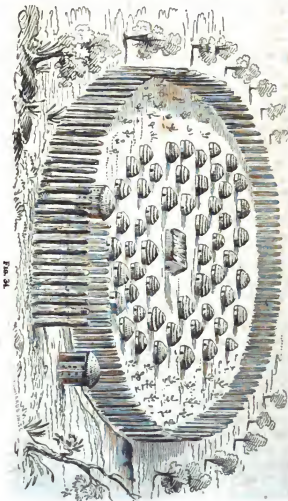
Of like character was the fort of the Pequots, on the Mystic River, in Connecticut, destroyed by Captain Mason. According to Hackluyt, the towns of the Indians on the St. Lawrence were defended in a similar manner. The first voyagers describe the aboriginal town of Hocholaga, now Montreal, as circular in form, and surrounded by three lines of palisades. Through these there was but a single entrance, well secured by stakes and bars; and upon the inside of the defence, were stages or platforms, upon which were placed stones and other missiles, ready for use, in case of attack. The town contained about fifty lodges.—(*Hackluyt*, vol. III., p. 220.)

Charlevoix observes, that "the Indians of Canada are more expert in erecting their fortifications than in building their houses." He represents that their villages were surrounded by double and frequently by triple rows of palisades, interwoven with branches of trees, and flanked by redoubts.—(*Canada*, vol. II., p. 128.) Champlain also describes a number of fortified works on the St. Lawrence, above *Trois Rivières*, which

"were composed of a number of posts set very close together." He also speaks of "forts which were great inclosures, with tiers joined together like pales," within which were the dwellings of the Indians.—(*Purchas*, vol. IV., pp. 1612, 1644.) Says La Hontan, "their villages were fortified with double palisades of very hard wood, which were as thick as one's thigh, fifteen feet high, with little squares about the middle of the courtines (curtains).—(Vol. II., p. 6.) The Indians on the coasts of Virginia and North Carolina are described as possessing corresponding defences. "When they would be very safe," says Beverly, "they treble the pales."—(*Hist. Virg.*, p. 149. See also *Amidas* and *Barlow* in *Pink.*, vol. XII., p. 567; *Heriot*, *ib.*, p. 603; *Lafitau*, vol. III., p. 228, etc. etc.)

Among the Floridian tribes, the custom of fortifying their villages seems to have been more general than among the Indians of a higher latitude. This may readily be accounted for from the fact that they were more fixed in their habits, considerably devoted to agriculture, and less averse to labor than those of the north. The chronicler of Soto's Expedition speaks of their towns as defended by "strong works of the height of a lance," composed of "great stakes driven deep in the ground, with poles the higness of one's arm placed crosswise, both inside and out, and fastened with pins to knit the whole together. Herrera, in his compiled account of the same expedition, has the following confirmation. "The town of Mabila or Mavila (Mobile) consisted of eighty houses seated in a plain, inclosed by piles driven down, with timbers athwart, rammed with long straw and earth between the hollow spaces, so that it looked like a wall smoothed with a trowel; and at every eighty paces was a tower, where eight men could fight, with many loop-holes and two gates. In the midst of the town was a large square."—(*Hist. America*, vol. V., p. 324.) Du Pratz also gives a corresponding account of the defences of the Natchez and neighboring tribes. "Their forts are built circularly, of two rows of large logs of wood, the logs of the inner row being opposite to the

jointings of those of the outer row. These logs are about fifteen feet long, five feet of which are sunk in the earth. The outer



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logs are about two feet thick, the inner ones half as much. At every forty paces along this wall, a circular tower juts out, and at the entrance of the fort, which is always next the river, the two ends of the wall pass beyond each other, leaving a side opening. In the middle of the fort stands a tree, with the branches lopped off within a short distance of the trunk, and this serves as a watch-tower."—(*Hist. Louisiana*, p. 375.) The following description and illustrative engraving, copied from De Bry, no doubt convey a correct idea of the character of the Floridian defences.

"The Indians build their towns in this wise. Having made choice of a spot near a running stream, they level it off as even as they can. They next draw a furrow of the size of the intended town in the form of a circle, in which they plant large round stakes, twice the height of a man, and set closely together. At the place where the entrance is to be, the circle is somewhat drawn in, after the fashion of a snail-shell, making the opening so narrow as not to admit more than two at a time. The bed of the stream is also turned into this entrance. At the head of the entrance a small round building is usually erected; within the passage is placed another. Each of them is pierced with slits and holes for observation, and is handsomely finished off after the manner of the country. In these guard-houses are placed those sentinels who can scent the trail of enemies at a great distance. As soon as their sense of smelling tells them that some are near, they hasten out, and, having found them, raise an alarm. The inhabitants, on hearing the shouting, immediately fly to the defence of the town, armed with bows, arrows, and clubs.

"In the middle of the town stands the king's palace, sunk somewhat below the level of the ground, on account of the heat of the sun. Around it are ranged the houses of the nobles, all slightly covered with palm-branches; for they make use of them only during nine months of the year, passing, as we have said, the other three months in the woods. When they return,

they take to their houses again; unless, indeed, they have been burned down in the mean time by their enemies, in which case they build themselves new ones of similar materials. Such is the magnificence of Indian palaces."

Among the Indians to the westward of the Mississippi, particularly among the Mandans and kindred tribes, a somewhat different system of defence prevailed. The serpentine courses of the rivers, all of which have here high, steep banks, leave many projecting points of land or elevated peninsulas, protected on nearly all sides by the streams, and capable, with little artificial aid, of being made effective for defensive purposes. Mr. Catlin describes the principal village of the Mandans, while that remarkable tribe existed, as protected upon three sides by the river, and upon the fourth "by a strong picket, with an interior ditch, three or four feet in depth." The picket was composed of timbers a foot or more in diameter and eighteen feet high, set firmly in the ground, at a sufficient distance from each other to admit guns to be fired between them. The warriors stationed themselves in the ditch during an attack, and were thus almost completely protected from their assailants. These practices seem, however, to be of comparatively late introduction.—(*N. A. Indians*, vol. I., p. 81.)

Brackenridgo (*Views of Louisiana*, p. 242) mentions the ruins of an Indian town upon the Missouri River, fifty miles above the mouth of the Shienne. The spot was marked by "great piles of buffalo bones and quantities of earthenware. The village appeared to have been scattered around a kind of citidel or fortification, inclosing from four to five acres, in an oval form." The earth was thrown up about four feet, and a few of the palisades were remaining. The Shienne River is 1300 miles above the mouth of the Missouri. Lewis and Clark also mention a number of remains of Indian fortifications of like character; but it is to be observed that they distinguish between them and the larger and more imposing ancient works which fell under their notice in the same region. They describe an abandoned village of the Riccarees, called Lahooat, which

was situated in the centre of Goodhope Island. It contained seventeen lodges, surrounded by a circular wall, and is known to have been occupied in 1797.—(*Exp.*, p. 72.) They also mention the remains of a deserted village, erected by *Petit Arc* or Little Bow, an Omahaw chief, on the banks of a small creek of the same name, emptying into the Missonri. It was surrounded by a wall of earth, about four feet high.—(*Exp.*, p. 41.) A circular work of earth, formerly inclosing a village of the Shiennes, was noticed by these explorers, a short distance above the mouth of the Shienne River.—(*Exp.*, p. 80.) The ancient villages of the Mandans, nine of which were observed in the same vicinity, within a space of twenty miles, were indicated by the walls which surrounded them, the fallen heaps of earth which covered the huts, and by the scattered teeth and bones of men and animals.—(*Exp.*, p. 84.) Another defensive work, probably designed for temporary protection, was observed by these gentlemen in the vicinity of the mouth of the Yellowstone. "It was built upon the level bottom, in the form of a circle, fifty feet in diameter, and was composed of logs lapping over each other, about five feet high, and covered on the outside with bark set upright. The entrance was guarded by a work on each side of it, facing the river." These entrenchments, they were informed, are frequently made by the Minaterees and other Indians at war with the Shoshonees, when pursued by their enemies on horseback.—(*Exp.*, p. 622.) Lient. Fremont found similar constructions in the vicinity of the Arkansas. A much more feasible method of protection, under such circumstances, is mentioned by Pike. He states that the Sioux, when in danger from their enemies in the plains, soon cover themselves by digging holes with their knives, and throwing up small breastworks.—(*Exp.*, p. 19.) They are represented as being able to bury themselves from sight, in an incredibly short space of time.

The numerous traces upon the Missonri, of old villages occupying similar positions, and having evidently been defended in

a like manner with those above described, place it beyond doubt that this method of fortification was not of recent origin among those Indians. Mr. Catlin mentions that there are several ruined villages of the Mandans, Minaterees and Riccarees, on the banks of the river, below the towns then occupied, which have been abandoned since intercourse became established with the whites.

Prince Maximilian notices a feature in the defences of the Mandan village of Mih-tutta-hang-kush, which does not seem to have been remarked by any other traveler. This village is represented to have consisted of about sixty huts, surrounded by palisades, forming a defence, at the angles of which were "conical mounds, covered with a facing of wicker-work, and having embrasures, completely commanding the river and plain." In another place, however, our author adds, that these bastions were erected for the Indians by the whites.—(*Travels in the Interior of North America, by Maximilian, Prince of Weid.*—pp. 173, 243.)

It will thus be seen, from what has already been presented, that, while the Indian tribes on the Atlantic coast and along the Gulf of Mexico, with few exceptions, defended themselves by simple stockades, the Indians to the west of the Mississippi frequently added an embankment of earth, though in other respects observing a very great uniformity with those nations first named. This difference may be accounted for, to a certain extent, by the nature of the soil, which, at the west, is generally readily excavated with the simplest tools.

Among the semi-civilized inhabitants of Mexico, Central America, and Peru, similar methods of defence were practiced; but in the construction of their fortresses they displayed a degree of superiority corresponding to that which, in most other respects, they sustained over their savage contemporaries. Cortez found himself opposed, upon his first landing on the coast of Tobasco, by the town of the same name, which, according to De Solis, was fortified after the usual method, on the coast.

The defences consisted of a kind of wall, made of the trunks of large trees, fixed in the ground after the manner of palisades, but so placed that there was room for the Indians to discharge their arrows between them. The work was round, without any traverses or other defences, and at the closing of the circle the extremity of one line covered the other, and formed a narrow, winding street, in which there were two or three little castles of wood which filled up the passage, and in which were posted their sentinels. "This," continues Solis, "was a sufficient fortress against the arms of the new world, when they were happily ignorant of the arts of war and of those methods to attack and defend, in which mankind has been instructed either by malice or necessity."—(*De Solis' Hist. Mexico*, p. 54.) This town, corresponding entirely with those described by the followers of De Soto, in Florida, seems to have been rudely fortified in comparison with others in the interior of the country, and nearer the seat of Aztec civilization. Here the towns and cities were surrounded not only by palisades, but also by ditches and walls of earth and solid masonry. The skill with which the city of Mexico was protected is amply attested by the chronicler of Cortez' expedition, who also informs us that walls were sometimes erected to guard the frontiers of provinces. The great wall of Tlascalla furnishes, in its extent, a parallel to some of the more imposing defensive structures of the other hemisphere. It was erected, according to Cortez, by the "ancient inhabitants" of that republic as a protection against their enemies; and Clavigero asserts that other portions of the frontier were defended in a similar manner. De Solis describes it as "a great wall which ran across a valley from one mountain to another, entirely stopping up the way; a sumptuous and strong piece of building, which showed the power and greatness of the builders. The outside was of hewn stone, united with mortar of extraordinary strength. It was twenty feet thick and a fathom and a half high; and on the top was a parapet after the manner of our fortifications. The entrance was nar-

row and winding, the wall in that part dividing, and making two walls, which circularly crossed each other for the space of ten paces." Clavigero states that it was six miles in length, eight feet in height, besides the parapet, and eighteen feet in thickness, composed of stone cemented with mortar. Works also existed in Mexico which approached more nearly to the character of the modern forts. They were, for the most part, strong, natural positions, such as isolated eminences, or the summits of steep and rugged mountains.

One of these, inclosing the ruins of many imposing temples and edifices, is situated to the north of the city of Mexico, in the department of Zacatecas, which is supposed to have been formerly occupied by the Chichimecs and Otomies. It is now known as the "Ruins of Quemada." The ruins are situated upon the summit of a high hill or *cerro*, and are inclosed upon the north, where the ground is sloping, by broad, double walls of massive stones cemented with mortar. Upon the south are rugged precipices, affording natural defences. The walls have bastions at intervals, and are entered by four broad roads, or causeways, which extend in different directions over the adjacent plains.

The hill of Xochicalco is three hundred feet in height, and a league in circumference, surrounded at the base by a deep and wide ditch. Whether designed as a temple or fortress, is not apparent. It may have subserved both purposes; for there is ample evidence, in the records of the conquerors, that the sacred grounds of the Aztecs were their places of last resort, in the defence of which their valor was inflamed by religious zeal. The summit of the hill of Xochicalco is attained by five spiral terraces, faced with cemented stones and supported by bulwarks, and is crowned by the ruins of edifices, which rank among the most imposing remains of the continent. An ancient fortress, which no doubt well illustrates the character of the ancient Mexican defences, is figured and described by Du Paix. "It occupies the summit of a steep, isolated rock, about a league

west of Mitlan. This rock is accessible only from the eastern side. The wall is of solid stone, twenty-one feet thick and eighteen high, forming in its wide range, which is about a league in extent, several salient and retiring angles, with curtains interposed. On its assailable side, where is its principal entrance, it is defended by double walls which mutually flank each other. The first or most advanced forms an *enceinte*, or elliptical rampart, upon which, at short intervals, there are heaps of small round stones for slinging, and in the centre of the crescent there is an oblique gate, to avoid the *enfilade* or right line of arrows, darts and stones. The second wall, which is joined at its extremities to that of the fortress, is of greater elevation, and forms a sort of *tenaille*. It differs from the other in having its sides or flanks more open. It has likewise its rampart and heaps of stones. For greater security, batteries were disposed in the Aztec system of defence, in front of the fortification, consisting of loose round stones, about three feet in diameter, placed high, and so balanced as to be easily precipitated below. On the plain surface of the rock are various ruins of square buildings, and edifices of considerable size, which were probably the ancient barracks. In the point diametrically opposite the entrance, is a sally-port or postern, for furnishing the fort with men and provisions, or to facilitate a forced retreat."

Near the village of Molcaxac are the remains of an ancient fortress, much resembling that here described. It occupies the summit of a mountain, and consists of four concentric walls of great strength and solidity.—(*De Solis*, Book II., p. 139; *Bradford's Am. Antq.*, p. 104.)

Another fortress of similar character, is mentioned by Clavigero as existing at Guatusco, twenty-five miles north of Cordova. It consists of high walls of stone, and is only entered by high and narrow flights of steps.

Although the above examples may seem to convey a very accurate idea of the nature of the defensive structures of the

Mexicans, it is yet to be regretted that so brief and imperfect accounts of them have been transmitted to us by the early writers. While we are constantly assured of their existence, their great extent and vast strength, we are left in the dark in respect to their details.

More is known respecting the military works of Peru, and all accounts concur in representing them as clearly resembling those already described. According to Ulloa, a method of fortification existed, nearly allied to that practiced by the ancient Celts. It consisted in digging three or four ranges of moats quite around the tops of high and steep mountains, protecting them on the inside by walls of earth or stone. These were called *pucuras*; and, in some of them, the outer circumvallation is represented as having been upwards of three miles in extent. In respect to their number, he asserts that one scarcely meets with a mountain without them.* Some were composed of rough stones without arrangement, others of adobes. The more irregular of these were attributed to the Indians before they were reduced by the Incas. La Vega describes the great fortress of Cuzco as constructed of three immense cyclopean walls, built rather of rocks than stones, surrounding a hill. Acosta measured some of the stones, and found them thirty feet in length, eighteen in breadth and six in thickness. The outer wall is said to have been twelve hundred feet in compass. Through the walls were gateways, communicating with the interior, where, according to La Vega, were three strong towers, two of which were square and one round; the latter appropriated to the use of the Incas, the former to the garrison. Under the towers were subterranean passages of great extent.† It was supplied with water from a fountain in the centre. This is the fortress which so long resisted the attacks of the Spaniards.

* Ulloa, vol. I., p. 504; vol. II., p. 113.

† McCulloh, p. 272; Bradford, p. 169; Schneider, (*Ulloa, Mem. Philor.* II., p. 457) says they were vaulted, (*ceintrées*.)

Similar works exist near the village of Banos, in Huamalies, occupying the summits of two mountains, placed opposite to each other on either side of the river. The sides of the mountains are divided into galleries, ranged one above the other, in some places formed by artificial walls, and in others cut in the solid rock.* On the road from Potosi to Tacua, are the ruins of an ancient Peruvian city. Upon one side, it is protected by a deep ravine, and on the other by a rampart, the stones composing which are dovetailed together in a very singular manner. Within the walls was a citadel or place of last resort.† Ulloa mentions the ruins of a fortified palace of the Incas, near Patasilca, one hundred and twenty miles from Lima. "The ruins are of very great extent: the walls are of tempered clay, and about six feet thick. The principal building stood upon an eminence, but the walls were continued to the foot of it, like regular circumvallations: the ascent wound round the hill leaving many angles which probably served as outworks to defend the place. It is called *Fortaleza*, and is supposed to have been a frontier point, during the time of the Incas."‡

There are also evidences that, on the frontiers of certain portions of Peru, were constructed walls similar in design to that of Tlascalla. Such a one is said to cross the valley of Guarmey.§ Analogous works exist in Chili.||

The fortifications of Central America are very much of the same character with those already described. Juarros gives an account of one of these situated upon the river Socoleo. "The approach, as usual to such places, was by a single entrance, and that so narrow as scarcely to permit a horseman to pass it. From the entrance there ran on the right hand a parapet raised on the berm of the fosse, extending along nearly the whole of

* Mercurio, Peruano, vol. V., p. 259; Stevenson, vol. II., p. 100.

† Andrews' Travels in S. A., vol. II., p. 161.

‡ Ulloa, vol. II., p. 27; Stevenson, vol. II., p. 23.

§ Ruschenberger, p. 361.

|| Fresler, p. 262; Molina, vol. II., pp. 10, 68.

that side; several vestiges of the counterscarp and curtain of the walls still remain, besides parts of other works, the use of which cannot now be easily discovered. In the court-yard there stood some large columns upon which were placed quantities of pine-wood, that being set on fire, gave light at night to the surrounding neighborhood. The citadel of this great fortification was in the form of a square graduated pyramid, rising twelve or fourteen yards from the base to the platform on the top, which was sufficient to admit of ten soldiers upon a side, etc. Every part of this fortress was constructed of hewn stones of great size; one of which being displaced measured three yards in length by one in breadth."*

The ruins of Uxmal in Yucatan, described by Mr. Stephens, are represented to be inclosed by a wall of loose stones,† It was not, however, completely traced by that gentleman. Inclosing the ruins of Tuloom he found a well-constructed wall of regular outline.

It forms three sides of a parallelogram, the fourth side toward the sea, being bounded by a precipitous cliff. "It is of rude construction, and composed of rough, flat stones laid upon each other without mortar or cement of any kind, and varies from eight to thirteen feet in thickness. The south side has two gateways, each about five feet wide. At the distance of six hundred and fifty feet, the wall turns at right angles and runs parallel to the sea. At the angle, elevated so as to give a commanding view, is a watch-tower, twelve feet square, which has two doorways. The interior is plain, and against the back wall is a small altar, at which the guard might offer up prayers for the preservation of the city. The west line parallel with the sea, has a single gateway; at the angle is another watch-tower, like that before described, and the wall then runs straight to the sea. The whole circuit is 2800 feet."‡

* Juarros' Hist. Guat., p. 462.

† Stephens' Yucatan, vol. I., pp. 165, 230.

‡ Stephens' Yucatan, vol. II., p. 396.

The remarkable structures within this work, seem to be of a religious origin, suggesting the probability that it was designed as a sacred inclosure. It is not impossible that, as in the case of some of the works of the Aztecs, it was the citadel of the surrounding population, within which, in times of danger, they sought the protection and assistance of their gods. The fortified hill in the vicinity of Grenville, Ohio, has a small sacred inclosure within its walls. May it not furnish a rude type of the more imposing work above described, and denote a similar practice?*

* "Ancient Monuments of Mississippi Valley," Plate IX

CHAPTER IX.

STONE HEAPS—STONES OF MEMORIAL—STONE CIRCLES.

WE have noticed, on a preceding page, the fact that occasional large heaps of stone, the work of the aborigines, are to be found in the State of New York. Particular reference was made to one in Schoharie county, which is described more in detail in Howe's Gazetteer of New York, as follows:

"Between Schoharie creek and Caughnawaga was an Indian trail, and near it, in the north bounds of Schoharie county, has been seen, from time immemorial, a large pile of stones, which has given the name of 'stone heap patent' to the tract on which it occurs, as may be seen from ancient deeds. Indian tradition says that a Mohawk murdered his brother on this spot, and that this heap was erected to commemorate the event. Every individual who passed that way added a stone to the pile, in propitiation of the spirit of the victim."*

Dwight, in his travels, mentions a heap of stones of this description, which was raised over the body of a warrior killed by accident, on the old Indian trail between Hartford and Farmington, the seat of the Tunxis Indians, in Connecticut. Rude heaps of stone of similar character are of frequent occurrence throughout the west. A very remarkable one occurs upon the dividing ridge between Indian and Crooked creeks, about ten miles south-west of Chillicothe, Ohio. It is immediately by the side of the old Indian trail which led from the Shawanoe towns, in the vicinity of Chillicothe, to the mouth of the Scioto River; and consists of a simple heap of stones, rectangular in

* Howe's Gaz. of New York, p. 278.

form, and measuring one hundred and six feet in length by sixty in width, and between three and four in height. The stones are of all sizes, from those not larger than a man's head, to those which can hardly be lifted. They are such as are found in great abundance on the hill slopes—the fragments or *debris* of the outcropping sandstone layers. Some are water-worn, showing that they were brought up from the creek, nearly half a mile distant: and although they were disposed with no regularity in respect to each other, the heap was originally quite symmetrical in outline. The stones have been thrown out from the centre, and an excavation of considerable depth made in the earth beneath, but without results. The heap is situated upon the highest point of land traversed by the Indian trail: upon the water shed, or dividing ridge between the streams which flow into Brush creek upon the one side and the Scioto River on the other.

Another heap of stones of like character, but somewhat less in size, is situated upon the top of a high, narrow hill overlooking the small valley of Salt creek, near Tarlton, Pickaway county, Ohio. It is remarkable as having large numbers of crumbling human bones, to say nothing of living black snakes intermingled, apparently without order, with the stones. A very extensive prospect is had from this point. Upon the slope of a lower hill near by, appears to have been formerly an Indian village. Many rude relics are uncovered on the spot, by the plough.

Smaller, and very irregular heaps are frequent among the hills. These do not generally embrace more than a couple cart-loads of stone, and almost invariably cover a skeleton. Occasionally the amount of stones is much greater. Rude implements are sometimes found with the skeletons. A number of such graves have been observed near Sinking Springs, Highland county, Ohio; also in Adams county in the same State, and in Greenup county, Kentucky, at a point nearly opposite the town of Portsmouth on the Ohio.

A stone heap, somewhat resembling those here described, though considerably less in size, is situated on the Wateree River, in South Carolina, near the mouth of Beaver creek, a few miles above the town of Camden. It is thus described in a MS. letter from Dr. Wm. Blanding, late of Camden, addressed to Dr. S. G. Morton, of Philadelphia :

"The land here rises for the distance of one mile, and forms a long hill from north to south. On the north point stands what is called the 'Indian Grave.' It is composed of many tons of small round stones, from one to four and five pounds weight. The pile is thirty feet long from east to west, twelve feet broad, and five feet high, so situated as to command an extensive view of the adjacent country, as far as 'Rocky Mount,' a distance of twenty miles above, and of the river for more than three miles, even at its lowest stages."

A large stone heap was observed, a number of years since, on a prairie, in one of the central counties of Tennessee. "Upon removing the stones, near the centre of the pile, was found a stone box, six feet long and three broad, formed by joining with care the edges of flat stones. Within it was found the decayed skeleton of a man. No weapons or other relics accompanied the skeleton."

The smaller stone heaps of the West seem to have been connected with some system of burial, and were perhaps designed to protect the bodies of those who casually met their death among the hills, or in some rencounter with an enemy, from the attacks of wild animals, as well as to point out their places of sepulture.* It is still customary among some of the Indian

* "To perpetuate the memory of any remarkable warriors killed in the woods, I must here observe that every Indian traveler, as he passes that way, throws a stone on the place, according as he likes or dislikes the occasion or manner of death of the deceased. In the woods we often see innumerable heaps of small stones in these places, where, according to tradition, some of their distinguished people were either killed or buried, till the bones could be gathered; then they add Pelion on Ossa,

tribes to carefully envelope the bodies of their dead, and place them in trees, or on scaffoldings, for the same purpose.

Occasionally, after interment in the earth, stakes are driven around the graves for the sake of protection. Whether the large heap first described was raised over the body of some distinguished savage, or as a simple mark or monument upon the Shawanoe trail, it is difficult to determine. The absence of human remains would seem to favor the latter conclusion. However this may be, there is certainly nothing very remarkable in the existence of these monuments. The superstitions of the Indians exhibited themselves in a thousand forms. A spot remarkable in any respect, seldom failed to arouse their superstitions, or attract their reverence, and to become in time a great "medicine," or mystery. According to Acosta, the Peruvians had a superstitious practice of casting a stone as an

still increasing each heap, as a lasting monument and honor to them, and an incentive to great actions."—*Adair's History of the American Indians*, p. 184.

"At, or soon after burial, the relations of the deceased sometimes cover the grave with stones; and, for years after, occasionally resort to it, and mourn over, or recount the merits and virtues of the silent tenant."—*Hunter's Narrative*, p. 309.

"They have other sorts of tombs; as when an Indian is slain, in that very place they make a heap of stones, (or sticks, when stones are not to be found :) to this memorial, every Indian that passes by, adds a stone, to augment the heap in respect to the deceased hero."—*Lawson's Carolina*, (1769,) p. 22.

Long describes an Indian burial-place near Piqua, Ohio, where the dead were placed upon the bare limestone rocks, and covered over with slabs of stone. No order was displayed in the arrangement of the graves. A cemetery of like character, in which each grave is marked by a heap of stones, is said to exist in Westmoreland county, Pennsylvania.

The Bheels of the mountain district of India still raise *cairns*, or rude piles of stones, over the bodies of their chiefs, the tops of which, at particular periods, is covered with oil, red lead and vermilion.—*Coleman's Hind. Myth.*, p. 271.

offering, upon any remarkable spot, at the crossings of paths, and on the tops of hills or mountains. "It is therefore," observes our authority, "that we find by the highways, great heaps of stones offered, and such other things."* So, too, an early writer on the Housatonic Indians observes: "There is a large heap of stones, I suppose ten cart-loads, in the way to *Wanhktukook*, which the Indians have thrown together as they passed by the place: for it used to be their custom, every time one passed by, to throw a stone upon it: but what was the end thereof they cannot tell, only that their fathers used to do it, and they do it because it was the custom of their fathers. Some suppose it was designed as an expression of their gratitude to the Supreme Being, that he preserved them to see the place again."† The "Elk-horn pyramid," on the upper Missouri, is regarded with deep reverence, and no hunter passes it without adding another horn to its proportions. This accumulation has been going on for a long period, and the pile is now reported to be not far from fifteen feet high, and of corresponding lateral proportions. It is composed entirely of elk-horns, many of which are to be found upon the adjacent prairies. An instance of this practice of accumulating stones and other materials, is mentioned by Mr. Schoolcraft, in which the offerings consisted of sticks and twigs.‡ It is highly probable that most of the great heaps of stone scattered over the country, owe their origin to this practice. It is further possible that some of them may have originated in a practice mentioned by Beverly, who states that the Indians sometimes signalized the conclusion of peace, or some other memorable action, by burying a tomahawk, and raising over it a heap of stones.§ If such was the fact, "burying the hatchet," was not a mere rhetorical figure among the Indian orators.

* Acosta, in Purchas, vol. III., p. 1028.

† Hopkins' Memoirs of Housatonic Indians, p. 11.

‡ Indian in his Wigwam, p. 78.

§ Hist. Virginia, p. 164.

Customs, similar in all respects to those described as existing among the Indians, prevailed among the ancient Celts, and have hardly become extinct among the Highlanders of Scotland. A *cairn*, or heap of stones, was the common monument of the dead, and hence arose the saying, "*I'll add a stane to yer cairn*," in acknowledgment of a service, or in token of regard. Two motives, however, appear to have existed for throwing a stone, in passing, to a cairn. In the one case, says Logan, it arose from respect to the deceased, whose memory it was wished to prolong by increasing the size of his funeral mound. The soul of the departed was believed to be pleased with this mark of attention. The other motive for throwing stones to augment a cairn was, to mark with execration the burial-place of a criminal; a practice which, according to Dr. Smith, was instituted by the Druids. "It is curious," continues the above author, "that the same practice should result from views so different; yet the fact is so, and the author has often, in the days of his youth, passed the grave of a suicide, on which, according to custom, he never failed to fling a stone."

At the death of Absalom, we are informed, in execration of his memory, his body was cast in a pit, and a heap of stones raised over him. "And they took Absalom, and cast him into a great pit in the wood, and laid a very great heap of stones upon him, and all Israel fled, every one to his tent." (2 Samuel xviii. 17.) A similar expression of popular hatred was visited upon the avaricious Achan. "And all Israel stoned him with stones, and they raised over him a great heap of stones." (Joshua vii.)

We also learn from the Scriptures that the ancients erected heaps of stone to mark spots signalized by some remarkable event. Thus, Jacob raised a pillar of stone to commemorate his wonderful dream. The spot where he parted with his brother Esau, was marked in a like manner. The priests caused a mound of stones to be erected where the Israelites crossed the river Jordan, and Gilgal, their second encampment,

was indicated by a heap of stones. Greek historians inform us that a similar custom existed among that people, derived from their ancestors. Every memorable field of battle, throughout Greece, has its tumulus or *polyandrum*.

The ancients erected heaps of stones in the cross-ways, and every traveler augmented it by adding a stone. These were termed *Thermula*. The pilgrims of the Middle Ages did the same, when they came within view of the end of their journeys; the piles which they erected were called *Montjoyes*. In the passes of the Alps, rude heaps of stone are visible, marking the spot of some deed of violence, or of some catastrophe. Similar heaps were often used to designate boundaries; and, in the early explorations of the western parts of our own country, were erected to mark the corners of surveys, or "locations." The bounds between Jacob and Laban were thus indicated. "And Laban said to Jacob, Behold this heap, and behold this pillar, which I have cast up betwixt me and thee. This heap be witness and this pillar be witness that I will not pass over this heap to thee, and thou shalt not pass over this heap and this pillar unto me, for harm." (*Genesis* xxxi. 51, 52.)

We have an instance, mentioned by Lieut. Emory, in which an erect stone was raised by some of the Indians of Northern Mexico in commemoration of a treaty or compact. He says, "At this point, (on the plains bordering the Moro River, New Mexico.) we were attracted to the left by an object which we supposed to be an Indian; but on coming up to it, we found it to be a sandstone block standing on end, surmounted by another shorter block. A mountain man, versed in these signs, said it was in commemoration of a talk and friendly smoke between some two or three tribes of Indians."*

The superstitions of the Indians extended to remarkable objects in nature. A tree or stone of singular form seldom failed to command their reverence. A stone which, from the

* Military Reconnoissance from U. S. to California, p. 24.

action of natural causes, has assumed the general form of a man or an animal, is especially an object of regard; and the fancied resemblance is often heightened by artificial means, as by daubs of paint, indicating the eyes, mouth and other features. Mr. Schoolcraft has presented the public with sketches of a number of these rude idols, all of which were found to the



FIG. 35.

northwest of the Great Lakes. Number 1 in the cut was brought to the Indian Office at Mackinaw in 1839: number 2 was found on Thunder Bay Island in Lake Huron in 1820, where it had been set up under a tree. The island is small and barren, and in its solitary, desolate aspect furnished a place eminently appropriate, according to the Indian superstition, for the residence of a Manitou or spirit. Number 3 was found by Mr. Schoolcraft about one thousand miles above the Falls of St. Anthony, on the Mississippi. It had been set up in a shadowy nook, and was almost entirely concealed by shrubbery.* Figure 36, No. 1, was found in East Hartford, Connecticut, and depo-



FIG. 36.

* Indian in his Wigwam, p. 292.

sited in the Museum of Yale College in 1788. It is thirty-one inches high and seventeen wide; the material is white granite. It is said the Indians placed their dead before it previous to burial, and afterward returned and danced around it.* Number 2 was found at the base of a mound in South Carolina, and is now in the possession of Dr. S. G. Morton, of Philadelphia. It is small, not more than six inches in height, and has evidently undergone some artificial modification.

Single erect stones, or a group of them, of large size, in isolated situations were also venerated. They are sometimes covered with rude figures, and sacrifices made at their base. Lewis and Clark, Prince Maximilian, and other travelers mention some of these, which in size and general disposition closely resemble the Celtic *cromlech*.† Catlin remarked a singular group of five large boulders, at the *Coteau des Prairies*, which were regarded with the utmost veneration by the Indians. None venture to approach nearer than three or four rods, and sacrifices are made in humble attitude, by throwing tobacco toward them from a distance.‡ It is well known that among the nations of the East, a plain, unwrought stone, placed in the ground, was an emblem of the generative or procreative powers of nature. In India such stones are very abundant, and are denominated *Linghams*; and in Central America the same symbol was extensively adopted. It is not improbable that the erection of an obelisk of wood in the centre of the consecrated areas of the Creeks, as described by Bartram, on page 121 of "Ancient Monuments of the Mississippi Valley," had its origin in the primitive practice of erecting these symbolical stones; which in India, as also in Central America, almost invariably occupy the centres of the sacred inclosures. Stones arranged in a circle, around a central larger one, or amid

* Trans. Am. Acad. Arts and Sciences, vol. III., p. 192.

† Lewis and Clark, pp. 79, 83; Prince Maximilian's Travels, pp. 381, 417.

‡ N. A. Indians, vol. II., p. 202.

several disposed in a peculiar manner, was a very primitive form of the solar temple. The remains of these temples, notwithstanding their rudeness, constitute some of the most imposing and interesting monuments of the Old World. If we may credit Beverly, the Indians of Virginia not only erected sacred stones, but had sacred inclosures, corresponding very nearly with the ancient stone circles. He says: "The Indians have posts fixed around their *Quiocasan* (temple of the idol), which have men's faces carved upon them, and are painted. They are likewise set up around some of their other celebrated places, and make a circle for them to dance about in, on certain solemn occasions. They very often set up pyramidal stones and pillars, which they color with *puccon* and other sorts of paint, and which they adorn with *peak*, *rocnake*, etc. To these they pay all outward signs of worship and devotion, not as to God, but as they are hieroglyphics of the permanency and immutability of the Deity: because these, of all sublunary bodies, are the least subject to decay or change; they also, for the same reason, keep baskets of stones in their cabins."^{*}

Besides the rough, upright and wrought stones, constituting inclosures, or occupying the areas of sacred structures, in Central America and Yucatan, accounts of which are given by Mr. Stephens, we have the intelligence of the recent discovery of monuments, in New Grenada, (South America,) which exhibit a still closer relationship to the primitive stone circles and other analogous structures of the other continent. The subjoined account is given in a letter from Signor Velez, dated Bogota, December, 1846:

"In traversing, at different times, the province of Tunja, with the sole purpose of examining the country, I acquired some vague information respecting the presumed existence, in the province of Leiva, of some ruins belonging to a temple or a palace of the times of the ancient Indians. As the account

^{*} Hist. Virginia, p. 164.

varied each time that I attempted to inform myself by inquiries, as to the existence of remains of buildings anterior to the conquest, and as no one affirmed that he had seen them himself, I began to doubt the truth of the report. Nevertheless, as the subject was one that interested me exceedingly, I undertook a journey, in the month of June, 1846, in spite of the time and trouble it would necessarily cost me, in order to put an end to my uncertainty. After traversing the province of Leiva in different directions, without meeting with the object I was in search of, and after advancing as far as the neighborhood of Moniquira, by following the route from Gachantiva to this place, across a beautiful gently sloping plain under cultivation, I discovered a large stone, which, when seen some distance off, did not at first appear as if wrought by the hand of man. On approaching it, I found it was a sort of column, 4½ varas in length by 3¼ in diameter. It seemed to me that such stones, although rudely wrought, must have served as columns. On examining the locality, I found, scattered here and there, other stones similar to the first, and at last, 13 stones of the largest size, ranged as in a circle about 50 varas in circumference. It appeared to me that they must have proceeded from some temple or palace, extending back to a remote period. Some of these columns have a flattened shape like a fish; each has notches at its extremities, which show clearly what means were employed for making fast to them, and drawing them from the quarry to the site which they now occupy.

"But now, when I began to despair of meeting with the ruins of an edifice, which was the main object of my journey, some Indians from a hut pointed out to me a spot some 400 varas distant from the thirteen last-mentioned columns. I immediately proceeded thither, and great indeed was my joy at beholding ruins! I found cylindrical columns, exceedingly well wrought, fixed in the ground, and occupying a surface 45 varas long by 22 broad. These ruins extend, in the direction of their length, from east to west; some arranged in a straight

line running in the same direction, with this peculiarity, that the columns are so near together that their distance from each other does not exceed half a vara. Their circumference also is not over half a vara (*sic*); as to their length, it could not be determined, these remains being so much damaged, that the highest of them is not more than $1\frac{1}{2}$ vara above ground; others are scarcely visible, the ranges to which they belong being interrupted. The diameter of these columns is precisely alike; they resemble each other exactly, and are so well turned into a cylindrical shape, that they seemed to me of better workmanship than those now made use of at Bogota; they form, by their lightness and elegance, a striking contrast with the thirteen enormous fragments mentioned above.

"It is impossible to affirm that the edifice in question was only 45 varas long and 22 broad, because, in this space, the columns touch each other. Over the whole extent of the place, which covers a considerable surface, there are scattered numerous fragments of columns, as also of other stones which appear to have been wrought on one of their faces. At a distance of 100 varas, I also found a spot covered with brambles and a considerable number of stones, which, from a cursory examination, I concluded to have been wrought. The columns which remain sunk in the ground, are about twenty-nine in number.

"In all that I saw, I observed no trace of mortar, lime, or any other cement. By taking up some of these columns, some may, perhaps, be found.

"The examination of these vestiges made a deep impression upon me, and I became convinced that the territory which contains them, and which is about two miles in extent, must have been occupied by a large city—and, as I conclude, by a nation much more ancient than the Muyscas.

"The ignorance which has always reigned in the province of Tunja, explains the little attention shown to monuments so interesting, and so worthy of being studied. The inhabitants of the country have alone been acquainted with them up to the

present time; and although not comparable in importance and grandeur to those which have been discovered in Guatemala and Yncatan, they nevertheless attest the existence of ancient populations already far advanced in civilization."

Monuments analogous to those here described, are found on the shores of Lake Titicaca, in Peru. Their origin is lost in obscurity, and they are supposed, by M. De Orbigny, who has carefully investigated, and given the world drawings of them to have been the work of a race anterior to the Incas, denoting, perhaps, a more advanced civilization than the monuments of Palenque. They have been described by a number of the early writers, commencing with Pedro de Ceica, one of the followers of Pizarro. M. De Orbigny speaks of them as follows: "These monuments consist of a mound raised nearly a hundred feet, surrounded with pillars—of temples from six to twelve hundred feet in length, opening precisely toward the east, and adorned with colossal angular columns—of porticoes of a single stone, covered with reliefs of skillful execution, though of rude design, displaying symbolical representations of the sun, and the condor his messenger—of basaltic statues loaded with bas-reliefs, in which the design of the carved head is half Egyptian—and lastly, of the interior of a palace formed of enormous blocks of rock completely hewn, whose dimensions are often twenty-one feet in length, twelve in breadth, and six in thickness. In the temples and palaces, the portals are not inclined as among those of the Incas, but perpendicular; and their vast dimensions, and the imposing masses of which they are composed, surpass in beauty and grandeur all that were afterward built by the sovereigns of Cuzco."*

* *L'Home America*, tom. I., p. 323.

CHAPTER X.

COMPARISON OF THE DEFENSIVE STRUCTURES OF THE AMERICAN ABORIGINES, WITH THOSE OF THE PACIFIC ISLANDERS, CELTS, ETC.

THE resemblances which the defensive works of the mound-builders, as well as of the later and existing Indian tribes, bear to those of many other rude nations, in various parts of the world, are no less striking than interesting. These resemblances have, however, had the effect of misleading superficial investigators, or those who have only paid incidental attention to these subjects. They have hastily inferred that, because certain monuments and aboriginal relics of the United States, such as entrenched hills, tumuli, and instruments and ornaments of stone and copper, sustain analogies, in some instances almost amounting to identities, with those occurring in the British Islands and on the steppes of Russia, that relations must necessarily have existed between the builders, or that they had a common origin. These resemblances are, nevertheless, the inevitable results of similar conditions; and the ancient Celts and Scythians, the American Indians, and the natives of Australia, built their hill-forts, and fashioned their flint arrow-points and stone axes in like manner, because they thus accomplished common objects, in the simplest and most obvious mode. Human development must be, if not in precisely the same channels, in the same direction, and must pass through the same stages. We cannot be surprised, therefore, that the earlier, as in fact the later monuments of every people, exhibit resemblances more or less striking. What is thus true

physically, or rather *monumentally*, is not less so in respect to intellectual and moral development. And it is not to be denied that the want of a sufficient allowance for natural and inevitable coincidences, has led to many errors in tracing the origin and affinities of nations.

We find not only in the British islands, but also in the islands of the Pacific ocean, the almost exact counterparts of the defensive structures of our own country. "The places of defence of the Sandwich Islanders," says Ellis, "were rocky fortresses improved by art,—narrow defiles or valleys, sheltered by projecting eminences,—passes among the mountains, difficult of access, yet allowing their inmates a secure and extensive range, and an unobstructed passage to some stream or spring. The celebrated *Pare* (fortress), in Atehuru, was of this kind; the mouth of the valley in which it was situated was built up with a stone wall, and those who fled thither for shelter were usually able to repel their assailants.

"Several of these places are very extensive; that at *Macra* in Huahine, near Mouna Tabui, is probably the best in the islands. It is a square of about half a mile on each side, and incloses many acres of ground well stocked with bread-fruit, containing several springs, and having within its precincts the principal temple of their tutelar deity. The walls are of solid stone-work, twelve feet in height. On the top of the walls, which were even and well paved, and in some places ten or twelve feet thick, the warriors kept watch and slept. Their houses were built within, and it was considered sufficiently large to contain the whole population. There were four principal openings in the wall, at regular distances from each other, that at the west being called the King's road. They were designed for ingress and egress; and during a siege, were built up with loose stones, when it was considered a *pari haabuea*, an impregnable fortress."—(*Ellis' Polynesian Researches*, vol. I., pp. 313, 314.)

The New Zealanders were not deficient in defensive skill.

Cook describes one of their strongholds or *Heppahs* at length. His account, from the light which it affords as to the probable manner in which the embankments of the western works were surmounted, is subjoined entire :

"Near this place is a high point or peninsula projecting into the river, and upon it are the remains of a fort, which they call Eppah or Heppah. The best engineers could not have chosen a situation better adapted to enable a small number to defend themselves against a greater. The steepness of the cliffs renders it wholly inaccessible from the water, which incloses it on three sides ; and, to the land, it is fortified by a ditch, and a bank raised on the inside. From the top of the bank to the bottom of the ditch is twenty-two feet ; the ditch on the outside is fourteen feet deep, and broad in proportion. The whole seemed to be executed with great judgment, and there had been a row of palisadoes, both on the top of the bank and along the brink of the ditch on the outside ; those on the outside had been driven very deep in the ground, and were inclined towards the ditch so as to project over it ; but of these, the thickest only were left, and upon them were evident marks of fire, so that the place had probably been taken and destroyed by an enemy. If occasion should make it necessary for a ship to winter or stay here, tents might be built in this place, which is sufficiently spacious, and might easily be made impregnable to the whole country."—(*Cook's Second Voyage.*)

The following additional particulars respecting the construction and defence of the *Heppah*, by a later writer, and a long resident of New Zealand, may serve to explain some of the features of the aboriginal structures of our own country, as also the probable manner in which they were defended.

"The fortifications of the natives are called *Pá* (*fort*), or *E Pá* (*the fort*). The spots chosen for these defences equally evince sound judgment and habitual fear. The position accounted as best adapted for the purpose, is the summit of a high hill, overlooking the surrounding country, or a mountain-

ous pass, having at its foot a river or running stream. Insular retreats, distant a few miles from the main, are also in especial repute. The first procedure is to *escarp* the hill, so as to render the ascent difficult and dangerous to a foe. Remains of such works are to be found on every remarkable elevation throughout the country. The further defences consist of two, sometimes of three stout stockades of irregularly sized posts and poles, varying from eight to thirty feet high from the ground, into which they are thrust from three to seven feet. The large posts are placed about a dozen feet apart, on which are often carved ludicrous representations of men and animals; the spaces between the poles being filled with stakes, placed close together, and bound firmly with horizontal pieces by a creeper called *toro-toro*, which is tough and serviceable for a long period. These strongholds have often proved superior to any force the natives could bring against them. Few instances have occurred of a *Pá* being taken by a brisk siege; they have failed only when cowardice, treachery, or improvidence have aided the assailants. The stockades that inclose the fort are within a few feet of each other, the outer gate or entrance being much less than the inner opening, which, in time of war, is entered by stepping-stones or small wooden posts like a turnstile. The width is so contracted as scarcely to admit a large-sized man, and between the fences a fosse is often cut, about four feet in depth, sheltering the besieged while discharging their missiles at the enemy. A more confused scene can scarcely be conceived than a *Pá* during a siege. Some hundreds of low arched huts lie huddled together without regularity, streets, or paths; among these, some native palaces raise their roofs, and platforms (*watás*) built on trees for the preservation of food, and not for defensive purposes. Mounds are often erected during a night by an enemy, to overlook the interior of a fort, but they are of rare occurrence. The huts near the *tiápa* or stockades are covered with earth and clay, to render them secure to the inmates.

"Some forts have been selected with consummate skill, having the command of mountain gorges and narrow passes, which might keep in check an army, if defended by a handful of brave men. Various contrivances are invented to render an approach to a fortification difficult of access. Sometimes a wooden post with notches for the feet affords the only means of entering the fort. The *Pá* formed by the celebrated E'Ongi, on a promontory jutting into Lake *Moperri*, was a work of much merit, and added greatly to the consequence of the self-taught engineer among his countrymen."—(*Pollock's New Zealand*, vol. II., p. 26.)

It appears from these facts, that whatever estimate we may place upon the capabilities of the Pacific and South Sea Islanders in other respects, they are, in the language of a close observer, "sufficiently advanced in civilization to construct fortifications, and adapt them to the nature of the country in which they are required."—(*Laing's Polynesian Nations*, p. 108.)

The defensive works of Great Britain present a great variety of forms, betraying different authors and different eras of construction. First of all, we have the works of the ancient Celts, of irregular outline, and occupying strong natural positions. These are succeeded by the fortified camps and other defences of the Roman era, which are followed by the less regular but more laborious works of the Belgic or Saxon period.

During the earliest or Celtic period, a large proportion of the barrows or tumuli scattered over the islands were erected; then, also, were built those mysterious circles and long avenues which bear so striking a resemblance to the ancient structures of our own country.

In the choice of their military positions, the ancient Britons were governed by the same obvious rules which regulated the mound-builders and the American Indians generally—advantage in all cases being taken of the natural features of the

country. Their defences were usually erected on headlands, a single wall being carried along the brow of the promontory, while the level approaches were protected by a succession of embankments and ditches, with occasional outworks or advance posts. In some instances, steep, isolated hills were selected, which were defended by a series of concentric embankments, completely encircling the summit,—a method of construction, as we have already seen, most frequently adopted by the Peruvians.

The subjoined examples of ancient British fortresses, are reduced from plans presented by Sir R. C. Hoare.

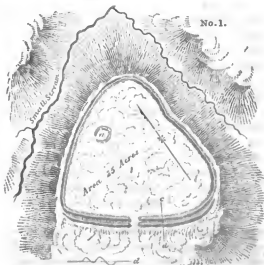


FIG. 37.

Fig. 37 is situated in the county of Wilts, in the parish of Colerne, near the road leading to Bath, and is known to British antiquaries under the different titles of "North Wood" and "Bury Wood Camp." "Its shape resembles that of a heart, its pointed part resting in an angle between two streams.

Its area comprehends twenty-five acres, and it appears to have had only one entrance toward the S. W., and that placed exactly in the centre of the ramparts, which on this side are double and rectilinear, the ground being level and most accessible on this side. On the N. W. side, near the outward valium, but within the area of the camp, is a small earthen work (a), single ditched, with an entrance to the west."—(*Ancient Wiltshire*, vol. II., p. 104.)



FIG. 38.

Fig. 38 is situated in the same section of country with the work just described, in the vicinity of Castle Combe, from which it is named. "It is placed," says Hoare, "in a very strange and picturesque situation, on the point of a very steep hill, at whose base flows a rapid brook. It is very difficult of access. The foundation of walls, a raised mound, and other circumstances, induce me to attribute to it a Saxon origin; and history reports its having been ravaged by the Danes. Its area is eight and a half acres; its form is rather oblong, but

wider toward the north, where the ground is most easy of access, and where the adit into the camp has been placed. On entering the work at this point, and proceeding toward the southern extremity, where the ground is most precipitate, we meet with three lines of ramparts, which intersect the area of the camp, through two of which there is an opening; the eastern point was fortified by a raised mound."—(*Ib.* vol. II., p. 101.)

The singular *vitrified forts* of Scotland are suggested in this connection. They appear to have been composed of loose stones, which, by some process of vitrification, were made to present the outward features of solid rocks, and have long perplexed antiquarians. Some have attributed the vitrification to lightning, others to accidental conflagration, while a few, more daring in their speculations, have considered them the craters of extinguished volcanos! It has also been supposed that vast defences of wood once surrounded and surmounted the ramparts, by the casual burning of which they were vitrified. There is, however, every reason to believe, that this feature was the result of design, although it is not easy to explain how it was produced. Dr. Anderson, in a communication to the Society of Antiquarians, in 1777, gives an account of a remarkable work of this description, called Knockferral, in Ross-Shire. It is placed on a high ridge of an oblong-shaped hill, very steep on three sides, the walls being raised on the edge of a precipice all round, except at the end admitting entrance into the area, the inclosed space of nearly an acre being level: features readily recognizable as also belonging to our American "Hill Forts." The approaches to this work, as those of all others of the same description, are strengthened by additional ramparts. "Those at the entry," says our authority, "had extended, as I guessed, about one hundred yards, and seemed to have consisted of cross-walls, one behind the other, eight or ten in number; the ruins of which are still plainly perceptible. Through each of these walls there must have been a gate, so that the besiegers would have

been under the necessity of forcing each of these gates successively, before they could carry the fort; on the opposite end of

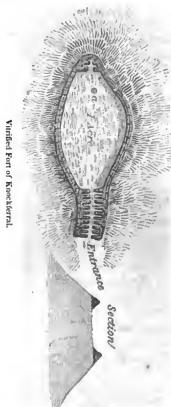


FIG. 39.

the hill, as the ground is considerably steeper, the outworks seem not to have extended above twenty yards. Not far from the farther end, was a well (*a*), now filled up. The wall all around from the inside appears to be only a mound of rub-

bish, consisting of loose stones: the vitrified wall is only to be seen from the outside. Here the wall is covered with a crust of about two feet in thickness, consisting of stones immersed among vitrified matter; some of the stones being half fused themselves,—all of them having evidently suffered a considerable heat. The crust is of an equal thickness—of about two feet—from the top to the bottom, so as to lie upon, and be supported by, a backing of loose stones, forming in section an acute angle. Within the crust of the vitrified matter is another stratum of some thickness, parallel to the former, and consisting of loose stones, which have been scorched by the fire, but present no marks of fusion.”

It will be perceived that in position, mode of construction, etc., these defences are indistinguishable from those of America. They might be regarded, so far as their apparent features are concerned, as the work of the same people; yet they were constructed by different races, separated from each other by ocean wastes, and having little in common, except the possession of those savage passions which have reddened every page of the world's history with blood. They serve only further to illustrate how naturally, and almost of necessity, men similarly circumstanced hit upon common methods of meeting their wants, and do not necessarily establish a common origin, nor a constant or casual intercourse.

The Roman camps, vestiges of which are abundant throughout England and on the continent, also bear a close analogy to a large class of the more regular Western earth-works, though probably differing widely from them in the purposes for which they were erected. “The Romans, from the earliest period, paid particular attention to the security of their armies, by choosing the best situations for their camps that the circumstances would permit. They did not, however, trust to natural strength alone—making it an invariable rule, wherever they came, to inclose themselves within an entrenchment, consisting of a rampart and ditch, strengthened with palisades. The forti-

fications were of a stronger or weaker character, according to the nearness of an enemy, or the appearance of danger with which they were threatened at the time. The form of the Roman camp was square, contrary to that adopted by the Greeks, who made theirs round, triangular, or of any other shape, as best suited the nature of the ground."—(*Roy's Military Antiquities of England*, p. 41.) The angles of the Roman camp were rounded, on a radius of about sixty feet, and there were gateways midway upon each side; sometimes, if the camps were of large size, there were several passages upon each side. These entrances were usually protected by exterior mounds, or by overlapping walls, and occasionally outworks were erected. The temporary camps, *castra æstiva*, or those not designed for constant occupation, had comparatively slight entrenchments, the ditch being about six feet deep, and the parapet behind it only about four feet high. The *castra stativa* were generally much smaller than the temporary camps, and were strongly protected. They were designed to contain garrisons, either to guard a frontier or keep in awe newly conquered provinces. Two ranges of them were erected shortly after the time of Agricola, upon the frontiers of Caledonia, placed at short intervals apart between the Clyde and Forth, and the Tyne and Solway, nearly upon the line afterward occupied by the walls of Hadrian, Antoninus Pius, and Severus. The smaller sort of *castra stativa* were termed *castella*, answering in a great degree to the field-forts and redoubts made use of by modern armies.

The following cut, Fig. 40, is a plan of the camp of a single Roman legion, according to Polybius, and is introduced more to illustrate the different methods of protecting the gateways, than to serve any other purpose. In some of the Western military works, as may be seen by reference to the first volume of Smithsonian Contributions, gateways occur similar to that at A. In the more regular structures of the West, however, the mound covering the gateway is invariably placed *interior* to the walls, which circumstance, joined to others less equivocal, goes to sus-

tain the conclusion that such works were not constructed for defence. The Roman camps had frequently two, sometimes



FIG. 40.

four or more, lines of embankment, with flanking defences, horn-works, etc. The stone and earth circles of England are all ascribed to the Celts; the rectangular works to the Romans. Throughout the islands, no works occur in which the two figures are combined, as in the Mississippi valley.

CHAPTER XI.

SEPULCHRAL MOUNDS IN MEXICO, CENTRAL AMERICA, PERU, AND CHILI.

Mounds are found in Oregon; but little is known concerning them, except that they occur in the open prairies, are of small size (seldom more than six or seven feet in height), and are many thousands in number. Some of them were opened by Com. Wilkes, but found to contain nothing beyond a pavement of round stones. Their origin is involved in obscurity. Although professing to know nothing concerning them, the Indians nevertheless regard them with some degree of veneration. Their priests, or "medicine men," gather the wild herbs which grow upon them, for use in their incantations and superstitious rites. It seems unlikely that they were built by a people so rude as those found in present occupation of the country.—(*Exploring Expedition*, vol. IV., p. 313.)

It is not known that any mounds occur in Upper or indeed in Lower California. A few are found in New Mexico, and in the valley of the Gila; but we are ignorant of their character and contents. The aboriginal Mexicans often buried in the pyramidal structures constituting their temples; and it is presumed, although we have no direct evidence of the fact, that they sometimes erected tumuli over their dead. The plain surrounding the great pyramids of Teotihuacan is covered with mounds, chiefly of stone, and disposed with a great deal of regularity; it is called *Micoatl*, or *Path of the Dead*.* These

* Mr. Thompson, in his "Recollections of Mexico (pp. 138, 142), expresses the opinion that what have been very generally supposed to be sepulchral mounds around these pyramids, are not such in fact,

pyramids are, however, ascribed to the Toltecs, who preceded the Aztecs in the possession of the valley of Anahuac; and it is reasonable to believe that the numerous tumuli which surround them, whatever their purposes, were built by the same hands.

If the practice of erecting mounds over the dead prevailed at all among the Mexicans, it must have been to a very limited extent. This is inferred from the silence of all the ancient authorities, who, although giving us very minute accounts of their burial customs, say nothing concerning such structures. It was usual to burn the dead, and the rite was performed with many ceremonies. In cases where simple inhumation was practised, the body was placed in a sitting posture, in chambers of stone or brick, accompanied by their ornaments and the implements of their profession. Bernal Diaz mentions the explorations of Figuero, an officer among the conquerors, who, in the territory of the Zapotecas, employed himself "in discovering the burial-places of the Caziques, and in opening their graves for the sake of the golden ornaments which the inhabitants of *olden times* were accustomed to bury with their chiefs. This employment he prosecuted with so much vigor and success, that he collected in this manner over 100,000 dollars worth of gold."—(*Lockhart's Diaz*, vol. II., p. 322.) It will be observed that Diaz speaks of these tombs as belonging to the people who inhabited the country in the olden time—probably the Toltecs, among which branch of the American family the practice of mound-building seems to have been of universal prevalence.

Sepulchral mounds are abundant in many parts of Central America. In the vicinity of the ruins of Ichnul, in Yucatan, they are particularly numerous, covering the plain for miles in every direction. Some of these are forty feet in height. Several have been opened and found to contain chambers, inclos-

but simply the ruins of the houses composing an ancient town. His opinion, for reasons which the inquirer will find explained at large in his book, is entitled to consideration.

ing skeletons, placed in a sitting position with small vessels of pottery at their feet.—(*Norman's Yucatan*, p. 146.) In Honduras, says Herrera, were many tombs of the inhabitants; "some of which were large plain rooms, and others only like great heaps of earth. In the territory of Zenu," continues this author, "abundance of graves were found in a field near a temple, so ancient that large trees were growing over them; and within them was an immense quantity of gold, besides what the Indians took, and what still is lost underground. These graves were very magnificent, adorned with broad stones and vaults, in which the dead body was laid, and all their wealth, jewels, and arms, women and servants alive, with good stores of provisions and pitchers of their liquors, which denoted the knowledge they had of the immortality of the soul. The dead were buried sitting, clothed and well armed."—(*Herrera*, vol. IV., p. 221.)

Mr. Stephens excavated a sepulchral mound in the vicinity of San Francisco, in Yucatan. It was a square stone structure, with sides four feet high; and the top was rounded over with stones and earth. The interior was loose earth and stones, with some layers of large flat stones, the whole very rough. After digging six hours, he came to a flat stone of large size, beneath which was a skeleton. The knees were bent against the stomach, the arms doubled from the elbow, and the hands supporting the neck or head. With this skeleton was found a large vaso, the mouth of which was covered with a flat stone. It was empty, except some little, hard, black flakes at the bottom. Mr. Stephens conjectures that it may have contained some liquid, or the heart of the skeleton.—(*Trav. in Yucatan*, vol. I., p. 277.)

In South America, and particularly in Peru, the custom of erecting mounds over the dead was of general prevalence. The sepulchral tumuli of Peru were called *huacas* or *guacas*. They exhibit many features in common with the burial mounds of the Mississippi valley, and establish that funeral customs, in many respects similar to those practised by the race of the

mounds, prevailed among the ancient inhabitants of that country. Their form is generally that of a simple cone; sometimes they are slightly elliptical, and occasionally rectangular. Their usual height is said to be not far from forty to fifty feet, though some are mentioned which are upwards of one hundred feet in altitude. They are scattered in great profusion over the country; but, according to Ulloa, are "most abundant within the jurisdiction of the town of Cayambe, where the plains are covered with them, for the reason that formerly here was one of the principal temples of the ancient inhabitants, which it was supposed communicated a sacred character to the surrounding country, which was therefore chosen for the burial-place of the kings and caziques of Quito; and in imitation of them, all the chiefs of the villages were interred there. The remarkable difference," continues this author, "in the magnitude of these monuments, seems to indicate that the huacas were always suitable to the character, dignity, or riches of the person interred, as indeed the vassals under some of the most potent caziques concurred in raising a mound over his body."—(*Ulloa*, vol. I., p. 480.) It may be regarded as settled, that, as a general thing, none but the bodies of deceased chieftains and other persons of consequence were deposited in the *huacas*, and that those of the common people were buried in simple graves. Within the huacas, upon the original surface of the ground, are found chambers constructed of stone, brick, or timber; sometimes there are several of them, with connecting galleries, in which the dead were placed. The bodies are usually found occupying a sitting posture. With them were placed a great variety of articles, ornaments, and implements. Vast quantities of pottery, of every variety of form and ornament; articles of gold and silver, comprising ear-rings, pendants, bracelets, and little images of men and animals; axes of hardened copper and of stone, differing but slightly in shape from those in use at the present day; spear-heads and mirrors of obsidian (*gallinazo* stone); cloth of cotton, of the wool of the lama, and of other

materials; implements of palm-wood; marine shells, and a thousand articles of similar character. Vast numbers of these tombs have been opened for the sake of the treasures they contain.*

In Chili, sepulchral mounds of earth and stone are of frequent occurrence. In them are found, besides the bones of the dead, earthenware, axes, and vessels of stone, admirably worked, and occasionally edged tools of hardened copper. Molina describes, with considerable minuteness, the funeral ceremonies of the Chilian Indians; which, from the light they may throw upon the customs of the mound-builders, are worthy of notice. "As soon as one of their nation dies, his friends and relations seat themselves on the ground round the body, and weep for a long time; they afterward expose it, donned in its best clothes, upon a high bier, where it remains during the night, which they pass near it, weeping, or in eating or drinking with those who come to console them. This is called the black entertainment: black being with them, as with us, the sign of mourning. The following day, or within two or three days, they carry the corpse to the burial-place of the family, which is usually situated on a hill or in a wood. The corpse is preceded by two men at full speed on horseback, and is followed by the relations, with loud cries and lamentations, while a woman strews ashes on the track, to prevent the soul from returning. On arriving at the place

* The amount of treasure found in some of the huacas is very great. Stevenson states that in the year 1576, a huaca was opened in which was found gold amounting to 46,810 golden onnces; according to Humboldt, 5,000,000 francs. We are not surprised at the great value of some of these deposits, in view of the almost incredible quantities of gold and silver possessed by the ancient Peruvians. According to Proctor (*Peru* in 1823-4), the excavation of the ancient tombs for their contents is still carried on, though it seems that considerable quantities of the precious metals are seldom found. Mr. Proctor mentions that in some instances the spindles of the ancient inhabitants, with the cotton thread still perfect on them, have been found in the huacas.

of burial, the corpse is laid on the surface of the ground, surrounded, if a man, with his arms; if a woman, with female implements, and with a great quantity of provisions, and with vessels filled with *chica* and with wine, which, according to their opinion, are necessary to subsist them during their passage to another world. They sometimes even kill a horse and inter it in the same ground. After these ceremonies, they take leave, with many tears, of the deceased, wishing him a prosperous journey, and cover the body with earth and stones in a pyramidal form, upon which they pour a great quantity of *chica*."—(*Molina's Chili*, vol. II., p. 82.)

The Esquimaux cover their dead with rude heaps of stone, above which they pile the sledges and canoes of the deceased. The bodies are usually closely wrapped in skins, and placed in a sitting posture.—(*Capt. Lyon's Narrative*, p. 68.) Kotzebue mentions a structure of stones which he designates as a "round tower, four fathoms in height," at Kotzebue Sound. It was probably a sepulchral monument of the savages.—(*Voyage*, vol. I., p. 210.)

CHAPTER XII.

SEFULCHRAL MOUNDS AND MONUMENTS OF THE ANCIENT WORLD.

"THE most enduring monuments of the primeval ages of society," observes a learned archaeologist, "were those erected in memory of the dead; and it seems that the further we go back into the history of mankind, the deeper we find man's veneration for his departed brethren. The simplest, and also the most durable, method of preserving the memory of the departed, was by raising a barrow, or mound of stones, over his remains; and accordingly, we find instances of this mode of interment in almost all countries of the globe." The extent to which it prevailed in America, we have already indicated; and the coincidences in form and structure between the sepulchral monuments of this continent and those of the Old World, have been the subject of incidental remark. These coincidences are, however, sufficiently remarkable to merit further attention; and it is believed a brief review of the character of the primitive sepulchral monuments of the other continent will serve greatly to illustrate and explain those of our own country, at the same time that it establishes the general prevalence of the custom of mound-burial in past ages.

The earliest of human records distinctly refer to the practice of erecting mounds of earth or stone over the dead; but we find in the pyramids of Egypt—which may be regarded as perfected tumuli—the evidence of its prevalence at a period long antecedent the dawn of written history. In the deep night of antiquity, step by step, had the rude heap of stones

which filial regard first gathered over the dead, developed itself, until in its massive proportions and solid strength it emulated the mountains, and bade defiance to time. Homer speaks frequently of the sepulchral tumuli of the heroic age of early Greece, and gives many curious details relating to the ceremonies of the interment. The description of the burial of Patroclus is familiar to most readers; it, however, conveys so accurate and lively an idea of the practices common to ancient burials, that we cannot do better, in illustration of our subject, than to quote it here. It should be premised that the Homeric heroes were burned before interment.

"They still abiding heaped the pile.

A hundred feet of breadth from side to side
They gave to it, and on the summit placed,
With sorrowing hearts, the body of the dead.
Many a fat sheep, with many an ox full-horned,
They flayed before the pile, busy their task
Administering; and Peleus' son, the fat
Taking from every victim, overspread
Complete the body with it of his friend
Patroclus, and the flayed beasts heaped around.
Then, placing flagons on the pile, replete
With oil and honey, he inclined their mouths
Towards the bier, and slew and added next,
Deep groaning and in haste, four martial steeds.
Nine dogs the hero at his table fed;
Of which beheading two, their carcasses
He added also. Last, twelve gallant sons
Of noble Trojans slaying (for his heart
Teemed with great vengeance), he applied the force
Of hungry flames that should devour the whole."

Iliad, Book XXIII., Cowper's Version.

The sacrifices done, and the body consumed, the bones are next collected and the tumulus heaped above.

"The Greeks obey! Where yet the embers glow,
Wide o'er the pile the sable wine they throw,
And deep subsides the ashy heap below.

Next the white bones his sad companions place,
 With tears collected, in the golden vase.
 The sacred relics to the tent they bore;
 The urn a veil of linen covered o'er.
 That done, they bid the sepulchre aspire,
 And cast the deep foundations round the pyre;
 High in the midst they heap the swelling bed
 Of rising earth, memorial of the dead."—*Iliad*, Book XXIII.

The Trojans are made to bury the body of Hector in the same manner: during nine days they collect the wood and raise the pile; and when fire has completed its part of the work, they also quench the fires with dark wine, and collect the bones of the hero in a golden urn, which they cover with a rich cloth, and place in a "hollow trench;" above this they pile large stones, and over all heap the tumulus.

The body of the dead was not always burned among the Greeks; on the contrary, burial both by inhumation and incineration was practised from the earliest times, though one practice may have been more common than another at a particular period. In Magna Græcia, unburnt skeletons have been found, and in tombs close by vases containing the ashes of the dead.—(*Tischbein and Böttiger*.) Both skeletons and ashes have been found in Greece itself.—(*Stackelberg, die Gräber, der Hellenen*.) There are no certain accounts as to whether the body was burned at the place of sepulture, or at a spot designated for that purpose. At any rate, the remains were collected and deposited in a *cinerary* made of clay or bronze. The coffins of the unburned were sometimes of wood, but generally the work of the potter, though in some cases of masonry or stone. The tombs were usually in a spot designated for the purpose. Sometimes they were placed in the person's own house. After it was forbidden to bury in the city, it became common to select a certain quarter for burials. The favorite place of sepulture was in the fields or by some frequented highway. The tombs were the inviolate property of the family, so that no

other person might bury therein. A variety of articles were placed with the dead—vases, mirrors, ornaments, etc. In cases of burning, they were placed on the pyre. Feasts and offerings to the dead were customary. At stated times the tombs were decked, and sometimes bloody sacrifices were made. In the order of funeral ceremonies, it should be mentioned that the first thing done was to insert a small coin (an *obolus*) in the mouth of the dead, as a *passage* for the ferryman of Hades. A similar custom existed among the ancient Mexicans, who inserted a gem of some kind in the lips of the deceased, which was to serve as a heart in the next world.

The funeral customs of the Romans were nearly identical with those practised by the Greeks. Their tombs were often simple tumuli, and so denominated. Burial by inhumation and by fire were common practices. In the tombs were placed coins, urns, flasks for holding tears or perfumes, sepulchral lamps, etc. Games were celebrated in honor of the dead, and sacrifices and libations made on their tombs.

Among both Greeks and Romans, the expenditures at funerals became so great, and the ambition to erect large and costly monuments so general, that it was found necessary to prescribe their dimensions, and check extravagance by law.

A pillar or upright stone, in ancient times a sacred emblem, was usually placed upon the tumulus of the dead. Paris wounded Diomedes from behind the pillar on the barrow of Ilus. These pillars were called *stelæ*. Alexander, when he crossed the Hellespont, performed solemn games at the barrows of the Grecian heroes who fell before the walls of Troy, and anointed with perfumes the *stelæ* on their tops. They were erected on the taphos of the Athenians who fell at Marathon, and on that of the Lacedæmonians who died at Thermopylæ, and bore the names of the slain. The *stelæ* were continued when the barrows were no longer erected; and the idea of their sanctity is still retained in the monumental stones

which plead for safety, by professing to be *sacred* to the memory of the person above whose grave they are erected.

Sometimes the arms or implements of the dead were suspended around the *stela* or crowned the barrow of the dead. A spear was fixed on the tomb of the Trojan Hector; and Misenus, the trumpeter of Hector, and pilot of the Trojan fleet of Æneas, had reared upon his tomb the symbols of his deeds.

"On it Æneas pliously heaped
A mighty mound sepulchral. The oar, the trumpet,
Arms of the man, the airy summit crowned,
From him Misenus named. It still retains
That name, and holds it through the lapse of time."*

Æneid, IV., 232.

Even in the later periods of Grecian history, mounds are occasionally raised over the illustrious dead. Plutarch says that Alexander, on the death of Demaratus, "made a most magnificent funeral for him, his whole army raising him a monument of earth eighty cubits high and of vast circumference." Semiramis endeavored to eternize the memory of Ninus her husband, by raising a high mound for his tomb. The Scythians, whose tumuli are scattered in great abundance over the plains of Russia, southern Siberia, and Tartary, labored, says Herodotus, "to raise as high a monument of earth

* The practice here indicated was one of general prevalence, not only in ancient but in more modern times, and alike among savage and polished nations. The Indians around the Upper Mississippi, to this day, place a pole above the graves of their dead, from which his arms and ornaments are suspended; so, too, do the Indians of Oregon; who, however, distrusting the veneration of their fellows, break holes in the kettles, and bend the barrels of the guns which they place on the tombs. The arms and crest of the titled dead are still graven on their monuments, and the unstrung lyre and broken sword indicate the graves of the poet and the warrior. The *stela* are still to be seen on the barrows of the ancient Scythians and Scandinavians, though none are found crowning the sepulchral mounds of America.

for their dead as possible." This author has left us a remarkable description of their mode of interment, which is amply confirmed by the exploration of their tombs. "The body of the king, having been transported through the various provinces of the kingdom, was brought at last to the Gerri, who live in the remotest parts of Scythia, where the sepulchres are. Here the corpse was placed upon a couch, encompassed on all sides by spears fixed in the ground: upon the whole were placed pieces of wood, covered with branches of willow. They strangled one of the deceased's concubines, his groom, cook, and most confidential servant, whose bodies they placed around the dead; they slew horses also, and deposited with him the first fruits of all things, and the choicest of his effects, and finally some golden goblets, for they possessed neither silver nor brass. This done, they heaped the earth above with great care, and endeavored to make as high a mound as possible."—(*Melpomene*, LXXI.) The richness of the Scythian barrows is extraordinary; and according to Strahlenberg, the local governors of Siberia used formerly to authorize caravans or expeditions "to visit and ransack the tombs," reserving to themselves a tenth of the treasures recovered.—(*Siberia*, p. 366.) In the second volume of the *British Archaeologia*, is an account of the opening of one of the large tumuli in southern Siberia. After removing the superincumbent earth and stones, three vaults, constructed of unhewn stones and of rude workmanship, were discovered. The central one was largest, and contained the remains of the individual over whom the tumulus had been erected. It also contained his sword, spear, bow, quiver, arrows, etc. In the vault at his feet, were the skeleton and trappings of a horse; in the vault at his head, a female skeleton, supposed to be that of his wife. The male skeleton reclined against the head of the vault, on a sheet of pure gold, extending from head to foot, and another of like dimensions was spread over it. It had been wrapped in a rich mantle, studded with rubies and emeralds. The female skeleton was enveloped in like manner; a

golden chain of many links, set with rubies, went round her neck, and there were bracelets of gold upon her arms. The four sheets of gold weighed forty pounds.

In some instances, the bodies were burned before interment. All of the Scythian barrows contain numerous relics of art, ornaments of gold and silver and precious stones, weapons and implements of war, domestic utensils, mirrors, images and idols, vases of metal and pottery, grains of the millet kind, etc., etc.—(*Strahlenberg*, pp. 264, 268; *Rennet's Herodotus*, p. 110.)

These ancient tombs, which are called *Bogri* by the Russians, are often plain mounds. Some were set round with rough stones in a circle or square: others with hewn stones. In the squares the corner-stone was usually higher and broader than the others, and sometimes bore inscriptions. Occasionally, the barrow was surmounted with a stone, or *stela*.

In Rajast'han, the practice of burying the distinguished dead under tumuli still exists. Previous to interment, the body is burned, as is also the wife of the deceased, who in all cases accompanies her lord. Monumental pillars are also erected, rudely carved with emblematic figures. They are placed in lines, irregular groups, and in circles, and are numerous in the vicinity of every large town. These tombs are places of sacrifice, and to them the Rajpoot repairs at stated intervals, to make offerings to the manes of his ancestors.—(*Tod's Rajast'han*, vol. I., pp. 72, 75)

A singular variety of tumular structures, maintaining a certain resemblance to those of other portions of the globe, but having many essentially peculiar features, is found in Sweden. They are, for the chief part, circular: sometimes, however, there is a square inclosure of upright stones, with a conical barrow in the centre, which has its base surrounded with upright stones; midway between this and the summit, the circumference is marked by a second ring of upright stones; close to the summit, a third belt encircles it, and the crest of the barrow is crowned by a *cromlech*, or group of stones. Another

variety has a circle of upright stones around the base of a *çarnedd*, or stone mound. A third variety has a circular belt of upright stones around a conical barrow, which is surmounted by a single upright stone. In connection with these, is a remarkable variety of stone inclosures. Some consist of a simple circle of upright stones; two of which, placed opposite each other, are larger and taller than the rest. Others are circular, with a small avenue of approach of four stones on each side; others are large circles, with every sixth stone of larger size than the others, and the two north and south, of still greater dimensions; others are triangular, with a large stone in the centre, and another at each corner; others triangular, with each side curving inward, but without the large stones in the centre and corners; others are square. The structures last named are frequently surrounded by *valla*, and inclosures are seen contiguous to and even forming part of tumuli.—(*Sjöborg Samlingar för Nordens Fornälskare*, &c., 2 vols. 4to., Stockholm, 1822; *Zur Alterthumskunde des Nordens*, Von J. J. A. Worsæ, Leipzig, 1847.)

Mr. Worsæ divides these barrows, according to the character of their contents, into three classes;

FIRST.—Barrows of the Stone Age.—These contain unburned corpses, inclosed in rude stone chambers; the implements and utensils found in them are of stone or flint.

SECOND.—Barrows of the Bronze Age.—Containing burned human remains, deposited in vases or little stone chests: also, arms and utensils of bronze or copper.

THIRD.—Barrows of the Iron Age.—Burned human remains: arms and utensils of iron, etc. These barrows are often of regular forms, triangular, square, oval, shipform, etc.; generally surrounded by upright stones, as above.

This classification differs somewhat from that usually adopted, in which the "age of fire" and the "age of hills" distinguish the earlier and later periods of Scandinavian monumental history. Odin is said to have introduced the practice of burning,

and also that of the wife sacrificing herself with her deceased lord.—(*Mallet's Northern Antiq.*, Chap. XII.) Among all the rude nations of the north and west of Europe, for an indefinite period before the dawn of civilization, burial customs, strictly analogous to those already described, existed. The dead were buried with or without burning, and with them were deposited numerous relics of art, which, in the greater or less skill which they exhibit, mark the eras of burial, and the gradual advance of the builders. The Germans, says Tacitus, "added to the funeral pile the arms of the deceased and his horse," and both Cæsar and Pomponius agree in saying that the inhabitants of Belgium and Gaul buried or burned with the dead whatever was valued by them in their lifetime.

The burial-mounds of the ancient Britons, both of the Celtic and Saxon periods, evince similar practices on the part of their builders. For obvious reasons, the mounds of the United States have oftenest been compared to these; and, upon the narrow basis of certain coincidences in structure, a common origin has been ascribed to both. This circumstance, in connection with others, justifies a more detailed notice of the British barrows than would otherwise be required. They have been systematically investigated by many learned and indefatigable antiquarians, the result of whose inquiries, so far as they relate to the modes of interment practised by the ancient inhabitants, are compendiously presented by Sir R. C. Hoare, in his splendid work, entitled "*Ancient Wiltshire*."

"Four distinct modes of interment were practised by the ancient Britons:—

1. The body placed generally in a cist, with its legs bent up toward the head, and frequently accompanied by daggers of brass, drinking cups, &c.

2. The body extended at full length, accompanied by articles of brass and iron, such as spear-heads, lances, swords, and the umbos of shields.

3. Interment by incineration; when the body of the de-

ceased was consumed by fire, and the bones and ashes deposited either on the floor of the barrow, or in a cist cut in the chalk. This is called a simple interment.

4. Urn burial, with incrimation, when the body was burned, and the bones and ashes deposited within a sepulchral urn, which is generally, though not in all cases, reversed. By the web of cloth still remaining in some instances, it appears that the ashes were wrapped up in a linen cloth and fastened by a small brass pin, several of which, intermixed with the ashes, have been found.

"Of these modes of burial, the first was probably most primitive; articles of iron bespeak a later period; and it is further probable, that the two modes of burying the body by fire were adopted at one and the same period. We have instances where the body has been inclosed in a wooden chest, riveted with brass, or within the mere simple covering of an unbarked timber tree."

A very remarkable resemblance in form exists between the various kinds of British barrows and the mounds of this country; in this respect, indeed, there is scarcely a perceptible difference between them. The curious will find in Hoare's *Ancient Wiltshire*, 1812; Stukeley's *Stonehenge and Itinerary*; Rowland's *Antiquities of Anglesey*, 1723; Camden's *Britannia*; Grose's *Antiquities*; in the *British Archaeologia*, thirty volumes, quarto; Higgins's *Celtic Druids*, 1827; Borlase's *Ancient Cornwall*; and in numerous other works upon the subject, abundant illustrations of the correctness of this observation. Sir R. C. Hoare has attempted to make the variety of form exhibited by these barrows the basis of a classification, distinguishing the eras of their construction, and even the caste and condition of the dead which they cover. It is probable that some varieties of form may have predominated at a particular period, and that the dimensions of the barrow may have, in some degree, corresponded with the rank of the dead. Fur-

ther than this, however, the theory is not well sustained. Sir Richard enumerates not less than eleven kinds of tumuli, distinguished from each other by their form, viz:

1st. *The Long Barrow*, which resembles half an egg, cut lengthwise, one end a little broader than the other, generally ditched around the base, sometimes inclosed in a circle, and occasionally set round with upright stones. Supposed to be the oldest form of the Celtic barrows. *Contents*: usually a number of skeletons at the broad end, lying in a confused manner, and generally covered with a pile of stones or flints. In other parts, stags' horns, fragments of rude pottery, and burnt bones.

2d. *The Bowl Barrow*, the form of which is indicated by the name, with or without a ditch, and having a slight depression in the top. Supposed to be a family mausoleum.

3d. *The Bell Barrow*, a modification of the *Bowl Barrow*, supposed to have been formed by placing a new top thereon, for additional interment.

4th. *The Druid Barrows*, inclosed by a vallum and ditch, the latter always interior to the former; the number of mounds within the inclosure, varying from one to fifteen or twenty. *Contents*: skeletons, small cups, beads of amber, glass, and jet, small lance-heads, and very rarely, sepulchral urns, all of elegant workmanship. Sir Richard supposes, from the predominance of ornaments, that they were devoted to females. Supposed to be family cemeteries.

5th. *The Pond Barrow*, consisting of a simple circular vallum or ditch. Fosbroke doubts whether these should be denominated barrows, and suggests that they may have been Druidical tribunals. They are identical in form with many of the small circles of the West. No remains found in them.

6th. *The Twin Barrow*, comprised of two barrows joining each other, and inclosed in a circle. Supposed by Sir Richard

to be the monuments of individuals closely allied to each other by blood or friendship.

The remaining classes are but slight and hardly appreciable modifications of those already described.

The rude natives of New Zealand erect tumuli over their dead, who are sometimes burned previous to interment. Their arms and ornaments are deposited with them. Custom rigorously enjoins that these monuments to the departed should be carefully watched over. A woman at Clarence River, who neglected to weed and trim her husband's tumulus, was put to death in consequence of her neglect.—(*Angas' Australia and New Zealand*, vol. II., p. 280; *Gray's Australia*, vol. I., p. 227.) Similar monuments, most usually constructed of stone, and sometimes of great size and regularity, were often erected over the dead by the natives of the larger Polynesian Islands, where they still remain, enduring records of the primitive customs of the islanders.—(*Ellis's Polynesian Researches*, vol. III., pp. 242, 325; *Beechey's Nar.*, pp. 20, 37; *La Pérouse Voy.*, vol. III., p. 194.)

Without noticing further the burial customs of nations, ancient and modern, in the various quarters of the globe, enough has been presented to show the general prevalence of mound-sepulture, and the nearly uniform practices which attended it. As remarked at the outset, it is the simplest method of perpetuating the memory of the dead. Its general adoption by different and widely separated people, must not, therefore, be taken to indicate any extraordinary dependence.

CHAPTER XIII.

PROBABLE FUNERAL RITES OF THE MOUND-BUILDERS.

FROM various features discovered in the sepulchral mounds of New York as well as in those of the West, it has been suggested that sacrifices or ceremonies of some kind, in which fire performed a part, were solemnized above the dead. The general occurrence of a layer of charcoal at some point near the surface of the mound, bearing evidence of having been heaped over while burning, and sometimes having mingled with it human bones, the bones of animals, and relics of art, affords ample basis for the conjecture. We have seen that in the burials of Chili, sacrifices and libations were made at the tumuli of the dead; in Peru, the burial rites were very similar, and in cases where the deceased was of the Inca race, or a person of consequence, his wives and domestics were put to death, that they might accompany and serve him in another world. On the death of the Inca Huyana Capac, it is said that over one thousand victims were slain at his tomb. Similar practices prevailed among many of the South American savage tribes; also in Central America and in Mexico. In the latter country, the arms, implements, and ornaments of the deceased were burned or buried with him; and, as we have already said, an animal resembling a dog, called by the Mexicans *techichi*, was killed, to accompany his soul in its journey to the world of spirits. If the body was burned, the ashes were collected in an earthen pot; in this was deposited a gem, which it was supposed would serve in the next world for a heart; and the urn was buried in a deep

ditch.* Eighty days thereafter, oblations of meats and drinks were made over the grave. On the decease of persons of consequence, their slaves and servants were put to death; sometimes in great numbers. Analogous customs prevailed among the Natchez, when, on the death of the Suns, many human-victims were sacrificed. Among the savage North American tribes, no custom was more general than that of making oblations at the tombs of the dead: dogs were sometimes sacrificed at the burial; and horses are now occasionally slain by the Western tribes upon the graves of their owners. Libations in some cases were made at the tomb, and repeated at intervals for years. According to Charlevoix, at the "Feasts of the Dead," or general burial of the Hurons and Iroquois, dances, games, and combats constituted a part of the ceremonies of the occasion.

Vanegas (*Hist. California*, I, p. 104) says, The California Indians bury or burn their dead indifferently, as chances to be most convenient. Vancouver (*Voy.* III, pp. 182, 242) mentions two instances, in which the natives of the Northwest coast burned their dead; but we are not left to infer that the custom was general. A singular funeral custom is mentioned as prevailing among the *Takali*, or Carriers, one of the Oregon tribes, and a branch of the great Algonquin family. They always burn their dead upon a pyre; in case the deceased has a wife, she is obliged to lie by the side of the corpse until the fire

* "They (the Mexicans) made it the office of the priests to inter the dead and perform the funeral obsequies. They buried them in their own gardens, and in the courts of their own houses. Some were carried to the places of sacrifice in the mountains; others were burned, and the ashes afterward buried in the temples; and with all were buried whatever they had of apparel, stones, and jewels. They did put the ashes of the dead in pots, and with them their valuables, how rich soever they might be. If it were a king or lord who was dead, they offered slaves to be put to death, and gave apparel to such as came to the interment. * * * They did set food and drink on the graves of the dead, imagining that their souls did feed thereon."—(*Acosta in Purchas*, Vol. III, p. 1029.)

is lighted and the heat becomes intense. If, in the estimation of the spectators, she abandons the pyre too early, she is thrust back, and thus often falls a sacrifice. The Medicine-men of this tribe pretend to receive the spirit of the dead in their hands, after the corpse is burned, and to be able to transfer it to any one they choose, who then bears the name of the dead, in addition to his own.—(*Narrative of U. S. Exploring Expedition*, vol. IV., p. 453.)

Father Creux, a Jesuit Missionary in Canada, in 1639, notices a fact which affords a curious antithesis to the customs of the Mexicans, above presented by Clavigero: namely, that the Hurons cut off the flesh from the bones of those who were drowned or frozen, and burned it; the skeleton alone was buried. Charlevoix (vol. II., p. 189) confirms this statement. He adds, that the bodies of those slain in battle were burned, probably for the more easy transportation of their ashes to the burial-grounds of their fathers.

La Hontan (vol. II., p. 53) states that "The savages upon the Long River [Mississippi?] burn their dead; reserving the bodies until there are a sufficient number to burn together, which is performed out of the village, in a place set apart for the purpose." This statement does not find support in other authorities.

"They appease the souls of the dead with offerings of meats and drinks. Every woman whose child dies at a distance from home, makes a journey, once a year, if possible, to its place of burial, to pour a libation on its grave."—(*Loskiel*, p. 76.)

With these facts and the suggestions of analogy before us, we are certainly justified in the inference that the burials in the mounds were attended with sacrifices, perhaps of human victims, with oblations, and, it is probable, with games and ceremonies corresponding with those which prevailed, at one period, in the Old World.

It was remarked, in a preceding chapter, that the highest

points of the hills and the jutting bluffs of the table-lands bordering the valleys of the Western rivers, are often crowned with mounds. Although generally supposed to have been designed for "look-onts," or places of observation, investigation has shown that a portion of them, at least, were sepulchral in their original purposes. Clavigero observes of the Mexicans, that they had no particular places assigned for the burial of their dead, but entombed them in the fields and on the *mountains*. It is possible that an ambition like that which governed the selection of the place of sepulture of the Omahaw chief, Blackbird, also influenced the ancient people in the disposal of their dead. He was buried sitting on his favorite horse, on the summit of a high hill overlooking the Mississippi, "that he might see the strangers coming to trade with his people." So, too, the chiefs of the mound-builders may have desired, at their death, to be placed where, with the eyes of a spirit, they might watch over their people thronging the fertile valleys beneath their tombs. Thus an early Greek poet speaks of the tomb of Themistocles overlooking the Piræus:

"Then shall thy mound, conspicuous on the shore,
Salute the mariners who pass the sea,
Keep watch on all who enter or depart,
And be the umpire in the naval strife."

Plato comicus, ap. Plut. vit. Themist.

A somewhat similar sentiment occurs in the *Iliad*, where Hector, speaking of one he is to slay in single combat, says:

"The long-haired Greeks
To him, upon the shores of Hellespont,
A mound shall heap; that those in after-times
Who sail along the darksome sea shall say,
'This is the monument of one long since
Borne to his grave, by mighty Hector slain.'"

The ancient Anglo-Saxon was not without a similar ambition. The dying Beowulf enjoins:

"Command the famous in war
to make a mound,
bright after the funeral fire,
upon the nose of the promontory.
Which shall for a memorial
to my people
rise high aloft
on Hronesness;
that the sea-sailors
may afterward call it
Beowulf's barrow,
when the Brentings
over the darkness of the floods
shall sail afar."—*Beowulf*, v. 5590.

The size of the aboriginal mounds of the West was no doubt regulated in a degree by the dignity of the individuals over whose remains they were erected, or by the regard in which they were held by their people. In the number or value of their inclosed relics, the various mounds, great and small, exhibit little difference. We have, however, seen, according to Ulloa, that the character of the deposits as well as the size of the mound was, in Peru, a sure indication of the state and power of the dead. Such was the case among the ancients. Beowulf requests that his people may raise a barrow over him proportionate in size to the respect entertained for his memory:

"Old of life, he spake a whole multitude of words, and commanded me to greet you; he bade that ye should make, according to the deeds of your friend, on the place of the funeral pile, the lofty barrow, large and famous, even as he was of men the most worthy warrior."—(*Beowulf*, I., 6183.)

In the subsequent burial of Beowulf, the burning of the body, the sacrifices, the games, the songs and orations in praise of the dead and in commemoration of his deeds, we have a vivid picture of the funeral customs of the olden time,—customs not peculiar to the old Continent, but prevailing among the nations

of the New World, and probably attending the burials of the ancient people whose monuments we are investigating. Beowulf's people carry into effect his desire, and the poem ends with this description of his interment:—

"For him then prepared the people of the Geats a funeral pile upon the earth, strong, hung round with helmets, with war-boards (shields), and with bright byrnies, as he had requested. The heroes, weeping, then laid down in the midst the famous chieftain, their dear lord. Then began on the hill the mightiest of funeral fires the warriors to awake: the wood-smoke rose aloft dark from the fire; noisily it went, mingled with weeping. The mixture of the wind lay on till it the bone-house [body] had broken, hot in his breast. Sad in mind, sorry in mood, they mourned the death of their lord. * * * Made then the people of the Westerns a mound over the sea; it was high and broad, by the sailors over the waves to be seen afar. And they built up, during ten days, the beacon of the war-renowned, the [king] of swords. They surrounded it with a wall, in the most honorable manner that wise men could desire. They put into the mound rings and bright gems, all such ornaments as the fierce-minded men had before taken from the hoard: they suffered the earth to hold the treasures of warriors, gold on the sand; there it yet remaineth, as useless to men as it was of old. Then round the mound rode of beasts of war, of nobles, a troop, twelve in all; they would speak about the king, they would call him to mind, relate the song of words, speak themselves; they praised his valor, and his deeds of bravery they judged with honor, as it is fitting that a man his friendly lord should extol, should love him in his soul, when he must depart from his body to become valueless. Thus mourned the people of the Geats, his domestic comrades, their dear lord; they said that he was of the kings of the world the mildest of men and the most gentle, the most gracious to his people, and the most jealous of glory."—(*Beowulf*, v. 6268.)

CHAPTER XIV.

THE MOUNDS NOT GENERAL BURIAL-PLACES; GREAT INDIAN CEMETERIES OF THE WEST.

ALLUSION has been made, in the body of this work, to the large cemeteries which have been discovered at various places in the Mississippi valley, and the suggestion ventured that they owe their origin to practices similar to those which prevailed among the Indians of New York and Canada, of collecting, at stated intervals, the bones of the dead, and depositing them in pits or trenches. There are many interesting facts connected with these cemeteries, which merit attention, and justify a recurrence to the subject.

Nothing is more common in the accounts given of Western mounds, than the loose and very vague remark, that certain ones or all of them "contain vast quantities of human bones." To this circumstance seems attributable, in a great degree, the prevailing and very erroneous impression, that the mounds are simple tombs, or rather grand cemeteries, containing the remains of an entire race. The Grave Creek mound is spoken of by Atwater, Doddridge, and other writers, as a grand mausoleum "undoubtedly containing many thousand human skeletons." An investigation has shown it to contain but a very few skeletons; and examinations of several other tumuli, characterized in similar extravagant terms, have been attended with like results. *The mounds of the West can be regarded only to a very limited extent as the burial-places of the people who built them.* But little more than one-half of their number are clearly sepul-

chral in their character; and these, except in extraordinary cases, contain but a single skeleton each.*

We must seek elsewhere for the general depositories of the dead of the mound-builders. It has been suggested that the

* The authority of Mr. Samnel R. Brown, author of the "Western Gazetteer, or Emigrant's Directory," published in 1817, has been quoted by various writers on American antiquities, and has been supposed to sustain the conclusion that the mounds were vast receptacles of the dead, slain in battle. It will be seen, however, from Mr. Brown's account of his explorations, that the mounds which he examined contained *deposits of different dates*, one of which was clearly of the modern Indians, though the fact does not appear to have suggested itself to the mind of the explorer, or to have occurred to the writers who have followed him. The material portions of Mr. Brown's account are subjoined:

"We examined from fifteen to twenty of these mounds. In some, whose height was from fifteen to twenty feet, we could not find more than four or five skeletons. In one, not the least appearance of a human bone was to be found. Others were so full of bones as to warrant the belief that they originally contained at least one hundred bodies; children of different ages and the full-grown seemed to have been piled together promiscuously. * * * In the progress of our researches, we obtained ample testimony that these masses of earth were the work of a savage people. We discovered a piece of glass resembling the bottom of a tumbler, but concave; several stone axes, etc. * * * There was no appearance of *iron*; one of the skulls was found pierced by an arrow, which was still sticking in it, driven about half way through before its force was spent. It was about six inches long. The subjects of this mound were doubtless killed in battle and hastily buried. In digging to the bottom of them, we *invariably* came to a stratum of ashes, from six inches to two feet thick, which rests on the original earth. These ashes contain coals, fragments of brands, and pieces of *calcined bones*. From the quantity of ashes and bones, and the appearance of the earth underneath, it was evident that large fires must have been kept burning for several days previous to commencing the mound, and that a considerable number of victims must have been sacrificed by burning on the spot."—(*Brown's Gazetteer of the West*, p. 58.)

"That some of the mounds served for tombs, we have the conclusive evidence that they abound in human bones. It has often been asserted,

caves of the limestone regions of Kentucky and Tennessee were used as sepulchres. Some of these are represented to have contained thousands of bodies, preserved by the natural properties of these caves, clothed in strange fabrics, composed of a coarse species of cloth interwoven with feathers, in fanciful and tasteful patterns, resembling the feather-cloth of Mexico, of which such glowing descriptions were given by the conquerors.* Ex-

that some of the mounds are full of bones that are perforated, as though the living subjects were slain in battle; and that the skeletons are heaped together in promiscuous confusion, as if buried after a conflict, without order or arrangement. The bones which we have seen were such, and so arranged, as might be expected in the common process of solemn and deliberate inhumation."—(*Flint*.)

"The vulgar opinion has been circulated by various writers, that under these mounds were buried the bodies of those who were slain in battle. They probably pertained to the particular tribe of a country, and were restricted to the principals among them; for it is not to be supposed that the inhabitants were indiscriminately buried under tumuli. Their burial-places must be sought elsewhere."—(*Sir Richard C. Hoare, on the Barrows of Great Britain*.)

* The nitrous caves of Kentucky were found to contain a considerable number of desiccated human bodies; they were termed *mummies*, and, for a time, created much speculation. They were generally enveloped in skins, in a species of bark, or in feather-cloth, and placed in a squatting posture. It is said that hundreds of these were taken from a cave near Lexington, and burned by the early settlers. The bodies appear to have owed their preservation entirely to natural causes. It has been inferred, from the resemblance between the envelopes of these bodies and the feather-cloths of Mexico, that the people who thus deposited their dead were very ancient, and probably an offshoot from Mexico. We have, however, abundant evidence to show that fabrics of this kind were manufactured by the Southern Indian tribes. The chronicler of Soto's expedition reports having found "a great many mantles made of white, red, green, and blue feathers, very convenient for the winter." De Pratz also describes this feather fabric as of common use; and Adair observes: "They likewise make turkey-feather blankets, twisting the inner end of the feathers very fast in a double, strong thread of the inner bark of the mulberry," etc.—(*Am. Inds.*, p. 423.)

tensive, however, as these cave depositories may have been, they fail, in view of the abundant evidences of a vast ancient population, to answer the question, What became of the dead of the ancient people? In Tennessee, as well as in Kentucky and

In May, 1835, a cavern cemetery was discovered on the banks of the Ohio River, opposite Steubenville. It was thirty or forty feet in circumference, and filled with human bones. "They were of all ages, and had been thrown in indiscriminately after the removal of the flesh. They seemed to have been deposited at different periods of time, those on the top alone being in a good state of preservation."—(*Morton's Crania Americana*, p. 235.) Dr. Morton regards these remains as of no great age, and as undoubtedly belonging to individuals of the barbarous tribes.

A similar cave was discovered some years ago, at Goleonda, on the Ohio River, Illinois. It contained many skeletons.—(*Crania Am.*, p. 234.) Henry, in his travels, mentions a cave in the island of Mackinaw, in Lake Huron, the floor of which was covered with human bones. He expresses the opinion that it was formerly filled with them. The Indians knew nothing concerning the deposite; our author, nevertheless, ventures the conjecture, that the cave was an ancient receptacle of the bones of prisoners sacrificed at the Indian war-feasts. "I have always observed," he continues, "that the Indians pay particular attention to the bones of sacrifices, preserving them unbroken, and depositing them in some place exclusively appropriated to the purpose."—(*Travels*, p. 111.)

In the State of Durango, Mexico, some cave depositories have been discovered, which have given rise to very exaggerated accounts. Some of them have represented that as many as a million of bodies were found in a single cavern. All the information which we have, that can be regarded as authentic, is contained in Dr. Wislizenus's Memoir of the Expedition under Doniphan, published by order of Congress, p. 69. After crossing the Rio Nasas, we arrived at San Lorenzo. "On the right hand, or south of us, was a chain of limestone hills running parallel to the road. At the foot of a hill belonging to the chain, Señor de Gaha pointed out a place to me where, some years ago, a remarkable discovery had been made. In the year 1838, a Mexican, Don Juan Flores, perceived the hidden entrance to a cave. He entered, and found nearly one thousand well-preserved Indian corpses, squatted together on the ground, with their hands folded below their knees. They were dressed in fine blankets, made of the fibres of lechuguilla, with sandals made of a species of liana, and were ornamented with colored scarfs, with beads of seeds

Missouri, extensive cemeteries have been discovered. For a description of some of those of Tennessee, the public are indebted to Prof. Troost, of Nashville.—(*Trans. Am. Ethnol. Soc.*, vol. I., p. 358.) One is mentioned by him in the immediate vicinity of that town, which is about a mile in length, and of indefinite breadth. No less than six others equally extensive are found within a radius of ten miles. The graves are lined with flat stones, and occur in ranges. Within these, skeletons much decayed are found, also various relics, some of which are recognized as identical with those found in the mounds of Ohio, suggesting a common origin. This identity is further indicated, though not established, by the presence of mounds and other structures in the vicinity of these cemeteries. Beads, composed of perforated shells, of the genus *Marginella*, were discovered by Dr. Troost in the graves. These have been found in both the sepulchral and sacrificial mounds north of the Ohio; as have also beads and other ornaments, made probably from the columella of the *strombus gigas*, similar to those found by this explorer in the graves above mentioned. How far these coincidences may be traced, can only be determined when the same mind which has investigated one class of remains shall be able to investigate the other.

Near Sparta, in Tennessee, are several extensive cemeteries, in which the bones of the dead were deposited, inclosed in short

of fruits, polished bones, etc. This is a very insufficient account of this mysterious burying-place. The Mexicans supposed it belonged to the Lipans, an old Indian tribe which from time immemorial has roved and still roams over the Bolson de Mahimi. I had heard at Chihuahua of this discovery, and was fortunate enough to secure a skull which had been taken from the cave."

Among the South American nations, cave-burial seems to have been common. Humboldt describes a cave-sepulchre of the Atures, which he discovered on the sources of the Orinoco. It contained nearly six hundred skeletons, regularly arranged in baskets and earthen vases. Some of the skeletons had been bleached, others painted, and all, it is worthy of remark, had been deposited after the removal of the flesh.

coffins or boxes, made of flat stones. These coffins measure about two feet in length and nine inches in depth. A small, rude, earthen vessel, accompanied by some small shells, is usually found near the head of each skeleton.—(*Featherstonhaugh's Trav.*, p. 48.) Similar burial-places are found in Missouri, particularly in the vicinity of the Marimec River. The "coffins" are neatly constructed of long flat stones, planted vertically, and adapted to each other edge to edge, so as to form a continuous wall. At either end of the grave the stones project a little above the surface. These stone sarcophagi are usually from three to four, but sometimes as many as six feet in length. The bones in these appear to have been deposited after having been separated from the flesh, in accordance with a practice well known to have been common among many Indian tribes.—(*Beck's Gaz. of Missouri*, p. 274; *James's Exped.*, vol. I., p. 55.) Other extensive cemeteries are found in various parts of the country. One near Alexandria, in Arkansas, is said to be a mile square.*

A very extensive cemetery has been discovered in Bracken county, Kentucky, occupying nearly the whole of the "bottom" or plain, on the south bank of the Ohio, between Bracken and

* Accounts of a number of these ancient cemeteries are given by Gen. Lewis Collins, in his recently published *History of Kentucky*, from which the following notices are condensed. Six miles N. E. of Bowling Green, Warren county, there is a cave which has a perpendicular descent of about thirty or forty feet. At the bottom are vast quantities of human bones.—(p. 541.) On the north bank of Green River, in the vicinity of Bowling Green, are a great many ancient graves; some of which are formed of stones set edgewise. A similar cemetery occurs near the mouth of Peter's creek, on Big Barren River; the bones are inclosed in stone coffins, which are about three feet long, and from one to one and a half wide. On the same river, three miles above Glasgow, and on Skegg's creek, five miles S. W. of the same place, are caves containing human bones; those in the last-named cavern seem to be exclusively the bones of small children.—(p. 177.) Similar caverns are found in Union and Meade counties, all of which are said to contain human bones in abundance.

Turtle creeks. The village of Augusta has been built upon it in latter times. The following account of this cemetery was communicated to the author by Gen. John Payno, of Augusta. It will be observed that iron was discovered in some of the graves; which demonstrates that a portion of the burials took place since communication was established between the whites and Indians, and very likely within the 18th century.

"The beautiful bottom upon which it stands, extends from one creek to the other, about a mile and a half, and averaging about 800 yards wide. The town is laid off at the upper end of the bottom. The hill back of it is high, but not precipitous; and upon arriving at the summit, it almost immediately falls toward the south with a gentle but deep descent, and immediately there rises another hill. I am thus particular, that you may have a knowledge of the ground where now rest the skeletons of hundreds, perhaps thousands, of an ancient race, as well as of the surrounding localities. The soil of the bottom-land is alluvial.

"The village rests upon one vast cemetery: indeed, the whole bottom appears to have been a great burying-ground; for a post hole can hardly be dug in any part of it without turning up human bones, particularly within three or four hundred yards of the river bank. The ground appears to have been thrown up into ridges, one end resting on the river bank, and the other extending out some two, others three hundred yards, with depressions between of about one hundred feet, the ridges rising to an elevation of about three feet, and are about fifty or sixty yards wide. These ridges are full of human skeletons, *regularly buried*. My house, at the lower end of the village, stands upon one of these ridges: and in excavating a foundation for the basement story, seventy by sixty feet, and four feet deep, we exhumed one hundred and ten skeletons, numbered by the skulls; but there were several more, the skulls of which were so much decayed and intermingled with others that I did not take them into the calculation. I have no doubt that there were at

least one hundred and forty bodies buried within the bounds above mentioned; and then on every side the skeletons had been severed, a part taken away while the remains were left sticking in the wall. My garden, extending one hundred and fifty feet back from my house, is manured with human bones, and is very productive. I cannot turn up a spadeful of earth without disturbing the remains of the ancient dead.

"Those exhumed by me, I have said, appeared to have been regularly buried; they were about two feet below the surface generally, but some not more than a foot or eighteen inches, invariably with their heads toward the river—the river at this point running south 70° west; some had rough unhammered stones extending on both sides the full length, with a head and foot stone, and a stone covering the head; others, again, would have only a stone on each side of the head, a head and foot stone, and a stone covering the head; others, only a head and foot stone; and others, and much the greatest number, had 'nothing to mark the ground where they were laid.' Most of the bones were entire; but when exposed to the atmosphere, many soon crumbled into dust, though others remained quite firm. Several of the skulls, in a good state of preservation, I had in my house for months, until they were broken up. The teeth appeared sound: I do not recollect an instance of defective teeth; there were many absent teeth, but this evidently arose from their dropping out after burial. There were some skeletons of children: the bones of those mouldered into dust almost immediately.

"Many articles of Indian ornament, use, and warfare were excavated, such as arrow-heads of flint and bone, glass beads, and that peculiar kind of ancient Indian pottery, formed of clay and pulverized or pounded muscle-shells, which had evidently received the action of heat to harden it. Some of the specimens of the latter were very perfect, with well-formed ears, like our pottery ware; some well-formed, handsome stone pipes,

glass beads, both black and blue, ornaments of bone, etc. The other ridges, where they have been opened, have exhibited like results: they are full of human bones, apparently regularly buried; but the skeletons have not been always found to lie at right angles with the river, but sometimes parallel, and at other times diagonally. Upon this bottom, and covering these remains in 1792, when the bottom was first settled, stood some of the largest trees of the forest. We have sycamores now standing on the bank, between these remains and the river, five feet in diameter at the stump.

"There is another fact which perhaps I should mention. Maj. Davis, who owned a farm on the Augusta bottom, about half a mile below the village, passing opposite his lands where a part of the bank had fallen into the river, discovered a bone sticking out of the bank; and upon drawing it out, it proved to be the bone of the right arm, and upon the wrist there were *three hammered iron rings*. They were evidently of manufactured iron, round and formed to fit the wrist: the ends brought together but not welded or closed; the iron was destroyed—it had been so completely oxydized as to break very easily; the workmanship was rough, and the print of the hammer was upon them.

"A full cart-load of bones, taken from the basement story of my house, I had wheeled off into my garden; over them I erected a mound, and crowned it with a summer-house; and there they shall rest for the future.

"About forty years ago, Dr. Overton, then of Lexington, was upon a visit to Augusta. I had heard of a large pile of stones upon the spur of a hill overlooking the Ohio, about three miles above. We went to visit it, worked hard nearly all day, and, at the depth of about five feet in the centre of the pile, found about a half bushel of charcoal and ashes; this was all that we could discover.

"I know of no fortifications, nor of any mounds or tumuli, in

the county of Bracken. At Claysville, near the bank of Licking River, there is a very large mound; but I have not been informed that either curiosity or scientific research has induced the citizens to open it."

Cemeteries, analogous to those in Tennessee and Kentucky, as already observed, exist in Ohio. One, in the extreme northeastern part of the State, at Conneant, on Lake Erie, covers about four acres. "It is in the form of an oblong square, and appears to have been laid out in lots running north and south, and exhibits all the order and propriety of arrangement deemed necessary to constitute Christian burial. The graves are distinguished by slight depressions, disposed in straight rows, and were originally estimated to number from two to three thousand. Some were examined in 1800, and found to contain human bones, blackened by time, which, on exposure, crumbled to dust. On the first examination of the ground by the early settlers, they found it covered with a primitive forest. A number of mounds occur in the vicinity. The pioneers observed that the lands around this place exhibited signs of having once been thrown up in squares and terraces, and laid out in gardens."—(*How's Gaz. of Ohio*, p. 40.)

A cemetery also occurs in Coshocton county, in the same state, which is described by Dr. Hildreth of Marietta, in Silliman's *Journal of Science and Art*. It is situated a short distance below the town of Coshocton, on an elevated, gravelly alluvion; in 1830, it covered about ten acres. The graves were arranged regularly in rows, with avenues between them; and the heads of the skeletons were placed to the west. Traces of wood were observed around some of the skeletons; from which circumstance it is supposed the bodies were deposited in coffins. The interments had evidently been what may be denominated *bone burials*, and were not made until after the decomposition of the flesh. The graves, consequently, measure but little more than three feet in length, the bones being dis-

membered and packed upon each other, or flexed together, thus giving rise to the popular error of an aboriginal *pigmy race*. No relics are described as accompanying the human remains.* Near this cemetery is a large mound.

How far these cemeteries may be regarded as the depositories of the mound-builders, we are unprepared to say. Dr. Troost is disposed to regard the "pigmy graves" as of comparatively late origin, and distinguishes between them and the cemeteries of the more ancient race. He observes: "Some consider these places as battle-grounds, and the graves, those of the slain; but that is not the case. The Indians do not bury fallen foes: they leave them to be devoured by wild animals; their own slain they carry to their towns, or hang up in mats, on trees. They have their burying festivals, when they collect the bones thus preserved, and bury them. In my opinion, the numerous small graves which are attributed to a race of pigmies, had this origin. I have opened numbers of them, and found them filled with mouldering bones, which, judging from the fragments, belonged to common-sized men. The bones in these graves lay without order. This is not the case with the old extinct race, whose graves are much larger, the skeletons being generally stretched out. Nevertheless, I have found these also more or less doubled up."* It is extremely probable

* It is said that in one of the graves were found pieces of oaken boards, together with some wrought iron nails. If such were the fact, the burial must have been made subsequent to the commencement of European intercourse. It is possible that this was a burial of later date than the others.

* Trans. Am. Ethnol. Soc., vol. I., p. 358. Dr. Troost describes these graves as "rude fabrics, composed of rough flat stones (mostly a kind of silty lime and sandstone, abundant in Tennessee). These were laid on the ground, in an excavation made for the purpose: upon them were put, edgewise, two similar stones of about the same length as the former; and two small ones were put at the extremities, so as to form an oblong box of the size of a man. When a coffin was to be constructed next to it, one of the side stones served for both, and conse-

that the large cemeteries of Ohio, and those of Kentucky and Tennessee, had a common origin. The absence of stone coffins in the former may perhaps be ascribed to the greater difficulty of procuring stones for the purpose of constructing them. Quite a number of stone graves have, nevertheless, been found in Ohio, entirely corresponding in structure with those above described; all of which answer perfectly to the *cistvaen* or *kistvaen* of the British antiquaries.

It is the opinion of Dr. Morton, founded upon an examination of the human remains found in some of the "pigmy graves" of Tennessee, that "the so-called pigmies of the Western country were merely children, who, for reasons not readily explained, but which actuate some religious communities of our own time, were buried apart from the adult people of their tribe."—(*An Inquiry into the Distinctive Characteristics of the American Race*, p. 44.)

quently they lay in straight rows, in one layer only: I never found one above the other."

The vulgar notion of a pigmy race, founded upon the small size of some of the ancient stone graves, was for a time associated with another equally absurd. Some skulls of old persons were taken from those cemeteries: the teeth had been lost and the *alveolæ* obliterated, exposing the sharp edge of the jaw-bone; whence it was inferred that the ancient pigmies were destitute of teeth, and had jaws like those of a turtle!

CHAPTER XV.

ABORIGINAL SACRED INCLOSURES.

It has elsewhere been observed, "that the structure, not less than the form and position, of a large number of the aboriginal inclosures of the Mississippi valley, render it certain that they were designed for other than defensive purposes."—(*Ancient Monuments of the Mississippi Valley*, p. 47.) They are distinguished for their regularity: most are circular, others are square or rectangular, and a few are elliptical or octagonal. Sometimes these figures are combined in the same group. While the defensive works for the most part occupy high hills and other commanding positions, and in their form correspond to the natural features of the ground upon which they are built, the sacred inclosures almost invariably occur upon the level river terraces, where the surface is least undulating. The ditch, in the few instances where that feature is discovered, is, with rare exceptions, interior to the embankment; and, in procuring the material comprising the latter, great care seems to have been exercised by the builders to preserve the surface of the surrounding plain smooth, and, as far as practicable, unbroken. The further fact that many of these regular works are commanded from neighboring eminences, not to mention the absence of supplies of water, seems conclusively to establish, that whatever may have been their secondary purposes, they were not primarily connected with any military system.

It has also been observed that these inclosures contain mounds, evidently of sacred origin. Some of them correspond

in form with the ancient pyramidal temples of Mexico and Central America, and others cover altars upon which were offered the sacrifices prescribed by the aboriginal ritual.

Upon the basis of these facts, it is assumed that the inclosures of the West, not manifestly defensive in their purposes, were in some way connected with the superstitions of their builders; an assumption supported by the well-known fact that the most imposing monuments of human labor and skill, in early times, were those which were erected under the influence of religious zeal.

Proceeding upon this assumption, we next inquire what relations these works sustain to the sacred structures of the various aboriginal nations of this continent, and to those erected by the primitive nations of the Old World, and to what extent they may be regarded as indicating the religious beliefs and conceptions of their builders?

TEMPLES OF THE NORTH AMERICAN INDIANS.

The temples of most of the North American Indian tribes were of the rudest character, and distinguished only by their greater size from the ordinary huts of the natives. The ground which they occupied was considered sacred, and an area around them was sometimes inclosed and consecrated to religious rites. Like the religious structures of the Druids, they were usually places of deliberation and council; within them the priests performed the ceremonies of their religion, and within them the chiefs and warriors gathered to consult on public affairs, to make war and conclude peace. Within them also was maintained the sacred fire of those nations which adhered to the requirements of sun-worship. The Narragansett Indians of New England, and the nations of Virginia, both kept up perpetual fires in their temples, as did also the Natchez and the other tribes which assimilated to the semi-civilized natives of Central America.—(*Purchas's Pilgrims*, IV., p. 1868; *McCulloch's Researches*, p. 3; *Loskiel*, p. 39; *Catlin's N. A*

Indians, vol. I., pp. 88, 158.) Among the Natchez, these temples were sometimes decorated with rude carvings and paintings, which probably were not without their significance.

Berkley describes with some minuteness a *Quioccosan* or sacred building of the Virginia Indians. It was constructed in precisely the same manner with their cabins generally, but was somewhat larger. It was thirty feet long by eighteen broad; and around and at some distance from it, were "set up posts, with faces carved on them and painted." The entrance was barricaded with logs; thus there was neither window nor passage for the light, except the door. In the centre of the building was a fire-place, and near one end was suspended a partition of mats, behind which, on shelves, were found three other mats, carefully rolled up. "In one of them," says our author, "we found some bones, which we judged to be the bones of men; in another we found some Indian tomahawks, finely graven and painted; and in the third, some materials which, when put together, formed a rude figure of a man, which was their *okee*, *kiwassee*, *Quioccos*, or idol."—(*Hist. Virginia*, p. 166.)

Smith, in his description of Virginia, says, that "in every territory of a Werowance is a temple and a priest—two or three, or more." He mentions also, "upon the top of certain red sandy hills, great houses filled with images of their kings and devils, and tombs of their predecessors. Which houses are neere sixty foot in length, built arborwise. This place they account so holy, that none but priests or kings dare come into it, nor the savages dare not go up in boats by it, but that they solemnly cast some pieces of copper, white beads, or pocones in the river. In this place are commonly resident seven priests."—(*Smith in Purchas*, vol. IV., p. 1701.)

Marchand mentions a temple among the natives of Cox's Channel (N. W. Coast), which had some relation to the primitive open temples of the Old World. "It is surrounded by strong posts, seven or eight feet high, in which are preserved

all the tall trees that are then growing; but all the shrubs are carefully torn up, and the ground is everywhere put in order and well beaten. In the midst of this inclosure, where a cave is sometimes made, is seen a square and uncovered edifice, constructed with handsome planks, the workmanship of which is admirable; and a stranger cannot behold without admiration that they are twenty-five feet in length, by four in breadth, and two and a half inches in thickness."—(*Marchand's Voy.*, vol. I., p. 409.) Vanegas states that there was a temple, in his day, at the Island of St. Catherines, on the coast of California, which had a spacious level court, where the Indians performed their sacrifices. The place of the altar was a large circular space, with an inclosure of feathers of divers colors; and within the circle was an image strangely painted, representing some devil, according to the manner of the Indians of Mexico, holding in his hand the figures of the sun and the moon.—(*Vanegas's California*, vol. I., p. 103.)

Prince Maximilian has described to us the "Medicine lodge" of the Minatarree Indians, of which the subjoined engraving (Fig. 41) is a plan. It is situated in the centre of the village, and consists of an elliptical space, one hundred and twenty

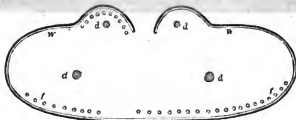


FIG. 41.

feet in length, inclosed by a fence ten or twelve feet high, composed of reeds and poles, somewhat inclining inwards. It has an entrance to the left; *d, d, d, d*, are four fires; and in the semi-elliptical recesses, the medicine men and elders of the

tribe have their seats.—(*Travels in America*, p. 419.) The place occupied by the spectators, is indicated by *f, f*. The Mandans had similar "medicine lodges," except that they were circular in form. They had also a sacred area in the centre of their village; and within it was placed a shrine of high mystery, around which their religious dances were performed.

It would be profitless to inquire further into the character of the sacred edifices, "medicine lodges," or "council houses" of the hunter tribes. It will be seen at once, that they reflect little if any light upon the structures under notice.

No sooner, however, do we pass to the southward, and arrive among the Creeks, Natchez, and affiliated Floridian tribes, than we discover traces of structures which, if they do not entirely correspond with the regular earth-works of the West, nevertheless seem to be somewhat analogous to them. These natives, it will be remembered, had made some slight advances in civilization, were agricultural in their habits, lived in considerable towns, had a systematized religion, and sustained many other resemblances to the semi-civilized nations of the continent.

Adair, in his account of these Indians, frequently mentions "*the Holy Square*" surrounding their temples, and within which their religious rites were performed. He does not, however, descend to particularize; and we are left to conjecture what were its dimensions, and how its boundaries were designated. It must have been of considerable size; for he several times speaks of it as receiving an entire village or tribe, at the time of the great annual festivals. He is so absorbed, however, in his favorite theory, that he cannot describe any feature except by the name borne by its fancied counterpart among the Jews. So we are not surprised in finding, within "*the Sacred Square*," and standing near its western side, a *Sanctum Sanctorum*, or most holy place, inclosed by a mud-wall about breast high. It was here that the consecrated vessels of earthenware, conch-

shells, etc., were deposited. This sacred place, according to our authority, could not be approached by any but the *magi* or priests. Indeed, so great a holiness attached to the sacred squares themselves, that it was believed if the great annual sacrifice were made elsewhere, it would not only be unavailable for the purposes required, but bring down the anger of the god to propitiate whose favor it was instituted, viz., the genial god, the god of almost universal adoration among rude people, the fountain of heat and light, the divine fire, *The Sun!* Within this square, at least at the time of the great festival, the women were not allowed to enter, nor those persons who had neglected to comply with certain prescribed purifying ceremonies, or who had been guilty of certain specified crimes.

The deficiencies in Adair's account are supplied to a considerable extent by Bartram, in a MS. work on the Creek Indians, now in possession of Dr. S. T. Morton, of Philadelphia. He not only describes the "public squares" alluded to by Adair, in which the religious ceremonies of the Indians were performed, and their deliberative councils held, but also communicates the interesting and important fact that they sometimes appropriated to their purposes the ancient inclosures and other monuments found in the country, and concerning the origin of which they professed no knowledge. His account, apart from its bearings on the questions before us, has a general interest which justifies its insertion entire.

"**CHUNK YARDS.**—The 'Chunk Yards' of the Muscogulges or Creeks, are rectangular areas, generally occupying the centre of the town. The Public Square and Rotunda, or Great Winter Council House, stand at the two opposite corners of them. They are generally very extensive, especially in the large, old towns: some of them are from six to nine hundred feet in length, and of proportionate breadth. The area is exactly level, and sunk two, sometimes three feet below the banks or terraces surrounding them, which are occasionally

two in number, one behind and above the other, and composed of the earth taken from the area at the time of its formation. These banks or terraces serve the purpose of seats for spectators. In the centre of this yard or area there is a low circular mound or eminence, in the middle of which stands erect the 'Chunk Pele,' which is a high obelisk or four-square pillar declining upwards to an obtuse point.* This is of wood, the heart or inward resinous part of a sound pine tree, and is very durable; it is generally from thirty to forty feet in height, and to the top is fastened some object which serves as a mark to shoot at, with arrows or the rifle, at certain appointed times. Near each corner of one end of the yard stands erect a less pole or pillar, about twelve feet high, called a 'slave post,' for the reason that to them are bound the captives condemned to be burnt. These posts are usually decorated with the scalps of slain enemies, suspended by strings from the top. They are often crowned with the white dry skull of an enemy.

"It thus appears that this area is designed for a public place of exhibition, for shows, games, etc. Formerly, there is little doubt, most barbarous and tragical scenes were enacted within them, such as the torturing and burning of captives, who were here forced to run the gauntlet, bruised and beaten with sticks and burning chunks of wood. The Indians do not now practise these cruelties: but there are some old traders who have witnessed them in former times. I inquired of these traders for what reason these areas were called '*Chunk-Yards*;' they were in general ignorant, yet, for the most part, concurred in a lame story that it originated in the circumstance of its having been a place of torture, and that the name was but an interpretation of the Indian term designating them.†

* This pole, it may here be observed, corresponds in position with certain erect stones, found by Mr. Stephens and other travelers, occupying the centre of the areas inclosed by the temples of Central America and Yucatan, and which, as will be seen in due time, were undoubtedly *pallic* emblems.

† According to Adair, Du Pratz, and other writers, the Cherokees

"I observed none of these yards in use in any of the Cherokee towns; and where I have mentioned them, in the Cherokee country, it must be understood that I saw only the remains or vestiges of them among the ruins of ancient towns. In the existing Cherokee towns which I visited, although there were ancient mounds and signs of the yard adjoining, yet the yard was either built upon or turned into a garden plat, or otherwise appropriated. Indeed, I am convinced that the Chunk Yards now or lately in use among the Creeks are of very ancient date, and not the work of the present Indians; although they are now kept in repair by them, being swept very clean every day, and the poles kept up and decorated in the manner I have described.

"The following plan, Fig. 42, will illustrate the form and character of these yards.

"A. The great area, surrounded by terraces or banks.

"B. A circular eminence, at one end of the yard, commonly nine or ten feet higher than the ground round about. Upon this mound stands the great *Rotunda*, *Hot House*, or *Winter Council House* of the present Creeks. It was probably designed and used by the ancients who constructed it, for the same purpose.

and probably the Creeks were much addicted to a singular game, played with a rod or pole and a circular stone, which was called *chungke*. Mr. Catlin describes this game as still existing under the name of "*Tchung-kee*," among the Minuterees and other tribes on the Missouri. It also prevailed among some of the Ohio Indians. It has been suggested that the areas called *chunk* or *chunky yards* by Bartram, derived their names from the circumstance that they were, among other objects, devoted to games, among which that of the *chungke* was prominent. This suggestion derives some support from Adair, who says, "They have, near their State House, a square piece of ground, well cleared; and fine sand is strewn over it when requisite to promote a swifter motion to what they throw along it."—(*American Indians*, p. 402.) It is therefore not improbable that these square areas were denominated *chungke yards*.

"O. A square terrace or eminence, about the same height with the circular one just described, occupying a position at the other end of the yard. Upon this stands the *Public Square*.

"The banks inclosing the yard are indicated by the letters *b, b, b, b*; *c* indicates the '*Chunk Pole*,' and *d, d*, the '*Slave Posts*.'

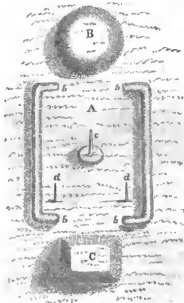


FIG. 42.

"Sometimes the square, instead of being open at the ends, as shown in the plan, is closed upon all sides by the banks. In the lately built or new Creek towns, they do not raise a mound for the foundation of their rotundas or public squares. The yard, however, is retained, and the public buildings occupy

nearly the same position in respect to it. They also retain the central obelisk and the slave posts.

ARRANGEMENT OF THE PUBLIC BUILDINGS.

"The following engraving, Fig. 43, exhibits the most common plan or arrangement of the Chunk Yard, Public Square, and Rotunda, in the *modern* Creek towns.

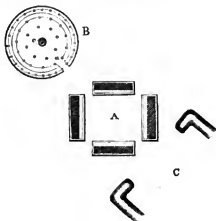


FIG. 43.

"A. The Public Square.

"B. The Rotunda: *a*, the entrance opening toward the square; the three circular lines show the rows of seats or rude sofas; the punctures show the posts or columns which support the building; *c*, the great central pillar, surrounded by the spiral fire which gives light to the edifice.*

"C. Part of the Chunk Yard.

* It is to be regretted that our author has not given the dimensions of the "Rotunda." It would be interesting to know how it would compare, in that respect, with the small circles so common throughout the West.

"Within this Rotunda, they seem to keep the Eternal Fire, where it is guarded by the priests. Within it the new fire is kindled on the occasion of the Feast of the First Fruits. No woman is allowed to step within the Rotunda, and it is death for any to enter. None but a priest can bring the sacred fire forth. The *spiral fire* in the centre of the building is very curious: it seems to light up into a flame, of itself, at the appointed time; but how this is done I know not.

THE PUBLIC SQUARE.

"The Public Square of the Creeks consists of four buildings of equal size, placed one upon each side of a quadrangular court. The principal or Council House, is divided transversely into three equal apartments, separated from each other by a low clay wall. This building is also divided longitudinally into two nearly equal parts; the foremost or front is an open piazza, where are seats for the council. The middle apartment is for the king (*mico*), the great war chief, second head man, and other venerable and worthy chiefs and warriors. The two others are for the warriors and citizens generally. The back apartment of this house is quite close and dark, and without entrances, except three very low arched holes or doors for admitting the priests. Here are deposited all the most valuable public things, as the eagle's tail or national standard, the sacred calumet, the drums, and all the apparatus of the priests. None but the priests having the care of these articles are admitted; and it is said to be certain death for any other person to enter.*

* This is probably the apartment designated by Adair as the *sanctum sanctorum*. Du Pratz (p. 351) states that the temples of the Natchez were divided into two apartments, in the larger of which the eternal fire was kept. "The inner apartment," he observes, "was very dark, receiving no light except what came in at the door. I could meet nothing here but two boards, on which were placed some things like small toys, which I had not light to peruse." These sacred inner rooms cannot fail to remind us of the dark chambers of Palenque and Copan, within which Mr.

"Fronting this is another building, called the 'Banqueting House;' and the edifices upon either hand are halls to accommodate the people on public occasions, as feasts, festivals, etc. The three buildings last mentioned are very much alike, and differ from the Council House only in not having the close back apartment.

"The clay-plastered walls of the Creek houses, particularly of the houses comprising the Public Square, are often covered with paintings. These are, I think, hieroglyphics or mystical writings, of the same use and purpose with those mentioned by historians to be found upon the obelisks, pyramids, and other monuments of the ancient Egyptians. They are much after the same style and taste; and though I never saw an instance of perspective or *chiaro-oscuro*, yet the outlines were bold, natural, and turned to convey some meaning, passion, or admonition, and they may be said to speak to those who can read them. The walls are plastered very smooth with red clay; then the figures or symbols are drawn with white clay, paste, or chalk: if the walls are plastered with white clay, the figures are sketched in red, brown, or bluish paste.

"Almost all kinds of animals, sometimes plants, flowers, trees, etc., are depicted; also figures of men in various attitudes, some very ludicrous and even obscene. In some instances, the *membrum generationis virile* is represented; but I saw no instance of indelicacy in a female figure. Men are often pictured with the head and other members of different kinds of animals, as the wolf, buck, hare, horse, buffalo, snake, duck, turkey, tiger, cat, crocodile, etc., etc. All these animals, on the other hand, are depicted having the human head and other members, as

Stephens discovered the mystical tablets described in his volumes on Central America. Nor is it difficult to trace a correspondence between the pictured walls of these buildings, as described in the text, and the sculptured fronts and elaborately painted walls of the Central American temples.

also the head and members of other animals, so as to appear monstrous.

CREEK TOWNS AND DWELLINGS.

The general position of the Chunk Yard and Public Buildings of the Creeks, in respect to the dwellings of the Indians themselves, is shown in the following engraved plan:

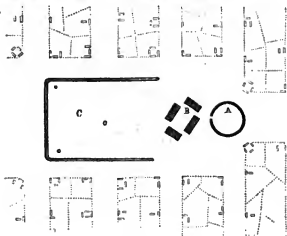


FIG. 44

"A is the Rotunda; B, the Public Square; C, the grand area, or Chunk Yard. The habitations of the citizens are placed with considerable regularity in streets or ranges, as indicated in the plan."*

* "The dwellings of the Upper Creeks consist of little squares, or rather of four oblong houses inclosing a square area, exactly on the plan of the Public Square. Every family, however, has not four of these houses: some have but three, others not more than two, and some but one, according to the circumstances of the individual or the number of his family. Those who possess four buildings have a particular use for each: one serves for a cook-room or winter lodging-house, another as a

The inference might not unreasonably be drawn, from Bartram's language, that the rectangular areas, surrounded by embankments, as also the square and circular mounds above mentioned, were constructed by the Creeks. He, however, states explicitly in his *Travels*, that the country in which these remains occur was occupied subsequently to the arrival of Euro-

summer lodging-house and hall for visitors, and another for a granary or store-house, etc.

"The accompanying cut (Fig. 45) illustrates the plan of the dwelling



FIG. 45.

or villa of a Creek chief known among the traders by the name of Bosten. A is the area inclosed by four buildings: the one upon the left, *c*, was his lodging-house, and was large and commodious; the building opposite was a large, square, open pavilion, covered by a cedar roof, which was supported by two rows of posts or pillars. Between each range of pillars was a platform, raised about two feet and ascended by two steps; this was covered with cheekered mats of curious workmanship, woven of splints of canes variously colored. In the centre of the pavilion was a square platform, raised somewhat higher than the others, and also covered with mats. In this delightful, airy place, visitors were received and entertained. The remaining two buildings were used, the one as a cook-house, the other as a store-house.

"The Lower Creeks, or Seminoles, are not so regular in their buildings, public or private. The private houses of the Cherokees consist of



FIG. 46.

one oblong log building, divided transversely into several apartments, with a portico in front; a round house, D, stands a little distance off, and is used as a winter lodging-house."

peans by the Cherokees, who were afterward dispossessed by the Creeks; and that "it was probably, many ages preceding the Cherokee invasion, inhabited by a single nation or confederacy, governed by common laws, possessing like customs, and speaking the same language, but so ancient that neither the Creeks nor the Cherokees, nor the nations they conquered, could render any account by whom or for what purposes these monuments were erected." He also inclines to the belief, that the uses to which these structures were appropriated, by the existing Indian tribes, were not widely different from those for which they were originally built. Upon this point he adds: "The mounds and large areas adjoining them seem to have been raised in part for ornament and recreation, and likewise to serve some other public purpose, since they are always so situated as to command the most extensive prospect over the country adjacent. The square terraces may have served as the foundations of fortresses; and perhaps the great pyramidal mounds answered the purpose of look-outs, or were high places for sacrifice."—(*Travels*, p. 518.)

From this account we gather the important fact, that in the centre of the Creek (as also of the Cherokee) towns was a "public square," surrounded by edifices devoted to public purposes; and that accompanying this square, and placed in a fixed position in respect to it, was an edifice, circular in form, which was more especially dedicated to religious purposes, and within which was kept up the eternal fire. In some cases these structures, it seems, were elevated upon mounds.

Mr. Payne, in his MSS., thus describes the great Council House of the Cherokees, which corresponds with the "Rotunda," mentioned by Bartram. After remarking that it was near this that the dwellings of the *Uku* and head men of the tribe were erected, and that it was always situated in a town capable of accommodating a great number of people, he proceeds:

"Every part bore a mystical reference to the sanctity with which they regarded the number *seven*. Seven posts were set

deep in the ground, equi-distant from each other, so as to form seven equal sides; though generally the roof, when it touched the ground, as it sometimes did, was entirely circular. Upon the seven posts seven very long beams were so placed, as to rest one end on the ground, or periphery raised *two or three feet with earth*, while the other end stretched high in air, and all soon met at a point directly over the centre of the floor. Other pieces of timber were fastened transversely to these, answering for ribs; at first they were thatched with grass, and over it a layer of clay, surmounted with another layer of grass, so as to make it water-proof. The external appearance of the entire building very much resembled an immense charcoal-pit. There was an opening in the roof for the escape of the smoke. The fire was in the centre. Anciently, they say, this was the sacred fire handed down from above.

"The Council House door was always on the eastern side, directly toward the rising sun. Before it was a portico. The seven posts which supported the house were so set, that one stood directly opposite the entrance, on the west side of the structure. It was painted white, and had pins and shelves attached to it, on which were hung or laid all the holy things connected with their worship. * * * The space which was regarded as most sacred, was that immediately back of the seat of the *Uku*, near the white post already mentioned. Among the sacred things kept here were the sacred arks, and smaller arks of clay for conveying the holy fire. * * * Adjacent to the Council House, there was a large public square, the sides formed by four one-story structures. The entrances at each corner were wide and open. These structures were open in front like piazzas, and each one was partitioned off into several divisions, etc."

The embankment designating the outlines of the structure here described, may be regarded as throwing direct light upon the origin of the small circles so abundant in the valley of the Ohio.

In the account of La Salle's last expedition to the mouth of the Mississippi, published by the Chevalier Tonti, we have a brief notice of the *Tauecas* or *Tenzas*, from which the following interesting passages, relating to the questions before us, are extracted.

“As the first village of the *Taueca* stands on the other side of a lake which is eight leagues in circumference, and half a league over, we were forced to take a canoe to cross it. As soon as we landed, I was surprised to see the grandeur of the village, and the order of the cottages; they are placed in divers rows, and in a straight line, round about a large space, being all made of earth and covered over with mats of cane. We presently took notice of two, fairer than the rest, one of which was the prince's palace, and the other the temple. Each of them was forty feet square, and the walls ten feet high and two feet thick, the roof in the form of a cupola, and covered with a mat of divers colors. * * * As to their religion, the prince told me that they worship the sun; that they had their temples, their altars, and their priests. That in their temple there was a fire which burned perpetually, as the proper emblem of the sun. That at the decrease of the moon, they carried a great dish of their greatest dainties to the door of the temple, as an oblatory sacrifice; which the priests offered to their god, and then carried it home and feasted themselves therewith. * * * The next day I had the curiosity to see their temple, and the old gentleman led me thither. The structure of it was exactly the same with that of the prince's house. *As to the outside, it is encompassed with a great high wall, the space betwixt that and the temple forming a kind of court where people may walk.* On the top of the wall were several pikes to be seen, upon which were stuck the heads of their own most notorious criminals, or of their enemies. On the top of the frontispiece, there is a great knob raised, all covered round with hair, and above that a heap of scalps, in the form of a trophy. * * * The inside of the temple is only a *Nare*, painted on all sides,

at top with all sorts of figures; in the midst of it is a hearth raised in the form of an altar, upon which there is burning continually three great billets of wood, standing up on end; and two priests, dressed in white vestments, are over looking after it to make up the fire and supply it. It is round this the people come to say their prayers with strange kind of hummings. The prayers are three times a day: at sunrise, at noon, and at sunset. They made me take notice of a sort of closet cut out of the wall, the inside of which was very fine. I could only see the roof of it, on the top of which there hung a couple of spread eagles, which looked toward the sun.* I wanted to go in; but they told me it was the tabernacle of their god, and that it was permitted to none but their high priest to go in. And I was told it was the repository of their wealth and treasures, as jewels, gold and silver, precious stones, and some goods that came out from Europe, which they had from their neighbors.—(*La Salle, Trans. N. Y. Hist. Soc.*, vol. II., pp. 269, 272.)

THE TEMPLES OF MEXICO, CENTRAL AMERICA, AND PERU.

The pyramidal temples of the Aztecs, which perhaps better deserve the name of altars, or the scriptural name of "high places," were always surrounded by large inclosures, most usually of a square form. The great temple of Mexico, which is described by all the early authors as nearly identical in form and structure with all the principal temples of Anahuac, consisted first of an immenso square area, "surrounded by a wall of stone and lime, eight feet thick, with battlements, ornamented with many stone figures in the form of serpents." The extent of this inclosure, which occupied the centre of the ancient city, may be inferred from the assertion of Cortez, that it might contain a town of five hundred houses. It was paved with pol-

* Adair speaks of "cherubimical figures in the Synhedria" of the Muscogulges or Creeks.—(p. 30.)

ished stones, so smooth, says Bernal Diaz, that "the horses of the Spaniards could not move over them without slipping." The four walls of this inclosure corresponded with the cardinal points, and gateways opened midway upon each side, from which, according to Gomera, led off broad and elevated avenues or roads.—(*Purchas*, vol. III., p. 1133.) In the centre of this grand arca arose the great temple, an immense pyramidal structure of five stages, faced with stone, three hundred feet square at the base, and one hundred and twenty feet in height, truncated, with a level summit, upon which were situated two towers, the shrines of the divinities to which it was consecrated. It was here the sacrifices were performed and the eternal fire maintained. One of these shrines was dedicated to Tezcatlipoca, the other to Huitzilpochtli; which divinities sustained the same relation to each other, in the Mexican mythology, as Brahma and Siva in that of the Hindus. Both are the same god, under different aspects, and with the God of the Rain, Tlaloc, constitute a Triad, almost identical with that which runs through all the mythologies of the East.

Besides this great pyramid, according to Clavigero, there are forty other similar structures, of smaller size, consecrated to separate divinities; one was called *Tezcacalli*, "House of the Shining Mirrors," which was covered with brilliant materials, and sacred to *Tezcatlipoca*, the God of Light, the Soul of the World, the Vivifier, the Spiritual Sun; another to *Tlaloc*, the God of Water, the Fertilizer; another to *Quetzalcoatl*, said to have been the God of the Air, whose shrine was distinguished by being circular, "even," says Gomera, "as the winds go round about the heavens, for that consideration made they his temple round."

Besides these, there were the dwellings of the priests (amounting, according to Zarate, to 5,000) and of the attendants in the temples, and seminaries for the instruction of youth; and, if we are to credit some accounts, houses of reception for strangers who came to visit the temple and see the

grandeur of the court; ponds and fountains, groves and gardens, in which flowers and "sweet smelling herbs" were cultivated for use in certain sacred rites, and for the decoration of the altars. "And all this," says Solis, "without retracting so much from that vast square but that eight or ten thousand persons had sufficient room to dance in, upon their solemn festivals." The area of this temple was consecrated ground; and it is related of Montezuma, that he only ventured to introduce Cortez within its sacred limits, after having consulted with and received the permission of the priests, and then only on the condition, in the words of Solis, that the conquerors "should behave themselves with respect." The Spaniards having exhibited, in the estimation of Montezuma, a want of due reverence and ceremony, he hastily withdrew them from the temple, while he himself remained to ask the pardon of his gods for having permitted the impious intrusion.

There is a general concurrence in the accounts of this great temple given by the early authorities, among whom are Cortez, Diaz, and others, who witnessed what they described. They all unite in presenting it as a type of the multitude of similar structures which existed in Anahnac. Their glowing descriptions, making due allowance for the circumstances under which they wrote, are sustained by the imposing ruins of Cholula, Papantla, Mitla, Xoxachalco, Misantha, Quemada, and the thousand other monuments which are yet unrecorded by the antiquary, and which invest every sierra and valley of Mexico with an interest hardly less absorbing than that which lingers around the banks of the Nile.

From the number of these religious structures, we gather some idea of the predominance of Mexican superstitions. Solis speaks of eight temples in the city of Mexico, of nearly equal grandeur with that above described, and estimates those of smaller size to amount to two thousand in number, "dedicated to as many idols of different names, forms, and attributes." Torquemada estimates the number of temples in

the Mexican empire at *forty thousand*, and Clavigero places the number far higher. "The architecture," he adds, "of the great temples was for the most part the same with that of the great temple of Mexico; but there were many likewise of a different structure, composed of a single body in the form of a pyramid, with a staircase, etc." Gomera says, "they were almost all of the same form: so that what we shall say of the principal temple, will suffice to explain all the others." Cortez, in a letter to Charles V., dated October 30, 1520, states that he counted four hundred of these pyramidal temples at Cholula.

From all sources we gather that the principal temples, or rather sacred places of Mexico, consisted of large square areas, surrounded by walls, with passages midway at their sides, from which sometimes led off avenues or roads, and that within these inclosures were pyramidal structures of various sizes, dedicated to different divinities, as also the residences of the priests, with groves, walks, etc.

Proceeding to Central America, we still find, so far as we are informed concerning the remains of these countries, the sacred inclosure and the pyramidal temple. The inclosure surrounding the sacred edifices of Tuloom, already described in another connection (page 162), was most probably the consecrated ground of the ancient inhabitants. Its rectangular form and the position of its gateways go far to connect it with the corresponding structures of Mexico and the United States. Grijalva, the first discoverer of Yucatan, alluding perhaps to these very structures of Tuloom, "saw several places of worship and temples, wide at the bottom and hollow at the top, stately stone buildings, at the foot of which was an inclosure of lime and stone." Del Rio assures us that the principal structures, the temples of Palenque, were placed in "the centre of a rectangular area, three hundred yards in breadth, and four hundred and fifty in length." Assuming the word "yard" to be a translation of the Spanish *cara*, which is about

thirty-three inches in length, we have the dimensions of this area, 825 by 1240 feet. Herrera relates, concerning the building of the town of Mayapan, by the ancient inhabitants of Yucatan:

"They pitched upon a spot, eight leagues from the place where Merida now stands, and fifteen from the sea, where they made an inclosure of about half a quarter of a league [on each side?], being a wall of dry stone with only two gates. They built temples, calling the greatest of them *Cuculcan*, and near to the inclosure the houses of the prime men. • • It was afterward ordered that, since the *inclosure was only for the temples*, the houses of the people should be built round about."—(*Herrera*, vol. IV., p. 162.)

The accounts which we possess of the ancient religious structures of Peru, although glowing with admiration of their splendor and riches, are yet extremely vague as respects their plan of construction. Enough, however, is easily gathered to assure us that they consisted of large consecrated courts or areas, like those of Mexico, in which the temples proper were situated, together with fountains, gardens, and the residences of the priests.

The great Temple of the Sun at Cuzco, in the description of which the early Spaniards have expended every superlative of their language, consisted of a principal building and several chapels and inferior edifices, covering a large extent of ground, in the heart of the city, and completely encompassed by a circular wall, which, with the edifices, was constructed of stone. Aqueducts opened within this sacred inclosure; and within it were gardens, and walks among shrubs and flowers of gold and silver, made in imitation of the productions of nature. It was attended by four thousand priests. "The ground," says La Vega, "for two hundred paces around the temple, was considered holy, and no one was allowed to pass within this boundary but with naked feet." Nor even under these restrictions were any permitted to enter, except of the

blood of the Incas, in whom were centred the priestly and civil functions of the government.

Besides the great Temple of the Sun, there was a large number of inferior temples in Cuzco, estimated by Horrara at three hundred. Numerous other temples are scattered over the empire, all of which seem to have corresponded very nearly in structure with that already described. The most celebrated temple in Peru, next to that of Cuzco, was situated on an island in Lake Titicaca, where it was believed Manco Capac first made his appearance on earth. The whole surface of the island was considered sacred. The Temple of Pachacamac is described as being inclosed by walls, and to have "more resembled a fortress than a temple." According to Roman, "the temples of Peru were built upon high grounds or the tops of hills, and were surrounded by four circular embankments of earth, one within the other. The temple stood in the centre of the inclosed area, and was quadrangular in form."

A structure, corresponding very nearly with this description, is noticed by Humboldt, who denominates it, in accordance with local traditions, *Ingapilca*, "House of the Incas," and supposes it to have been a sort of fortified lodging-place of the Incas, in their journeys from one part of the empire to the other. It is situated at Cannar, and occupies the summit of a hill. The "citadel" is a very regular oval, the greatest axis of which is 125 feet, and consists of a wall, built of large blocks of stone, rising to the height of sixteen feet. Within this oval is a square edifice, containing but two rooms, which resembles the ordinary stone dwellings of the present day. Surrounding these is a much larger circular inclosure, which, from the description and plate, we infer is not far from five hundred feet in diameter. This series of works possesses few military features, and it seems most likely that it was a temple of the Sun. This opinion is confirmed by the fact that, at the base of the hill of Cannar was formerly a famous shrine of

the Sun; consisting of the universal symbol of that luminary formed by nature upon the face of a great rock. Humboldt himself admits an apparent dependence between this shrine and the structures above described.—(*Humboldt's Res.*, vol., pp. 242, 248: fol. plates, No. 17.) Ulloa describes an ancient Peruvian temple situated on a hill near the town of Cayambe, perfectly circular in form, and open at the top. It was built of unburnt bricks, cemented together with clay.—(*Ulloa*, vol. I., p. 486.)

TEMPLES OF POLYNESIAN ISLANDERS, HINDUS, ETC.

Inclosures ruder in construction, yet nevertheless analogous in form and identical in purpose with those here described, were found among the Polynesian Islanders. The area of their temples was frequently a square or parallelogram, protected by stone walls, within which were pyramidal structures, sometimes of great size. One of these, within the great inclosure of *Atehuru*, was two hundred and seventy feet long, by ninety-four feet broad, and fifty feet high; flat on the summit, which was reached by a flight of steps, much after the manner of the Mexican Teocalli. Within the sacred area, and at the base of these pyramidal structures, the idols were placed and their altars erected. Here also were the dwellings of the priests and of the keepers of the idols. The trees and other objects within the walls were sacred.—(*Ellis's Polynesian Researches*, vol. I., p. 340.) In some instances, instead of an unbroken wall, the sacred area was indicated by a series of pyramidal heaps of stones, placed at intervals, so as to constitute the leading points of a square, within which was placed the temple proper. The ruins of a temple of this kind, called *Kaili*, still exist in the island of Hawaii.—(*U. S. Exploring Exped.*, vol. IV., p. 100.)

When we extend our inquiries to the eastern shores of the old continent, we find in India the almost exact counterparts

of the religious structures of Central America: analogies furnishing the strongest support of the hypothesis which places the origin of American semi-civilization in southern Asia. A close and critical comparison of these monuments, in connection with the systems of religion to which they were respectively dedicated, and the principles which governed their erection, may lead to most interesting and important results.

In another connection, some of the more obvious analogies will be pointed out; with no view, however, of establishing dependencies, but for the purpose of illustration and elucidation. It is sufficient for our present objects to remark, that the temples of India and of the islands of the Indian seas, both of modern and ancient date, are constructed and inclosed in like manner with those already described. The consecrated area is sometimes of vast extent, equaling if not exceeding in this respect the largest of those which existed in Mexico. These inclosures are square, and usually have their entrances corresponding to the cardinal points. "The general style of these buildings," says Bishop Heber, "is a large square court, sometimes merely surrounded by a low brick wall, with balustrades, indented at the top, with two or sometimes four towers at the angles. In the centre of the principal front is, for the most part, an entrance, often very handsome. In the middle of the quadrangle, or in the middle of one of its sides opposite the main entrance, is a pyramid, which is the temple of the principal deity. The structure is sometimes octagonal, but mostly square."—(*Heber's Travels*, vol. I., Chap. 3.) "Sometimes a number of temples are built within this sacred area. One at Chanchra, in Jesson, has twenty-one temples, and one thousand acres of ground."—(*Ward*, vol. III., p. 230.) The Pagoda of Seringham is one of the most magnificent in India. It stands on an island in the river *Careri*, in the dominions of the Rajah of Tanjore. Seven square inclosures, formed by walls twenty-five feet high, four feet thick, and three hundred and fifty feet distant from each other, inclose a court in the

centre, in which are sacred pyramidal structures, the abodes of the gods of the Hindu pantheon, and among them the sanctuary of the Supreme Vishnu. These various deities are believed really to animate their respective pyramids or shrines. Four large gates, one in the middle of each side, each surmounted by a tower, are the entrances to the several courts. The outer wall is four miles in circumference. The number of the inclosures has a symbolical signification, and refers to the several regions into which the Universe, the abode of the gods, was supposed to be divided, according to the theory of the age in which the structure was built.—(*Dudley's Naology*, p. 104; *Colman's Mythology of the Hindus*, p. 157; *Maurice's Indian Antiquities*, vol. III., pp. 13, 50.) The great temple of Jaggenath, at Orissa, the general resort of all Hindu sects, is regarded as possessing such exceeding sanctity, that the earth for twenty miles round is considered holy. The most sacred spot is an inclosed area about six hundred and fifty feet square, which contains the temples of the idol and his sister, surrounded by fifty lesser temples, all of pyramidal form.—(*Colman's Myth. of the Hindus*, p. 52.)

In the Island of Java are the remains of many ancient temples, of similar character and construction. A large number of these, designated as the ruins of Prambanai, exist in the district of Pajang. One of the most perfect of the groups occurring here is termed by the natives "the Thousand Temples." The group occupies a rectangular area six hundred feet long and five hundred and fifty feet broad, and consists of four rows of small pyramidal structures, inclosing a court, in which is placed a large pyramidal edifice. The whole is surrounded by a wall, having entrances midway on each side. Some of these groups are disposed in squares of greater or less dimensions, but all have a common character.—(*Crawford's Indian Archipelago*, vol. II., p. 196; *Asiatic Researches, Calcutta*, vol. XIII.) There are also single temples of like form, occasionally of great size, and generally surrounded by a series of inclosures.

The religious edifices and pyramidal shrines of the Japanese are described by Kämpfer as "sweetly seated" in the midst of large square inclosures, approached by spacious avenues, and embracing within their walls springs, groves, and pleasant walks. "The empire," observes our authority, "is full of these temples, and their priests are without number. Only in and about Miaco, they count nearly 4,000 temples and about 37,000 priests."—(*Kämpfer's Japan*, vol. II., p. 416.)

These examples might be greatly multiplied, so as to extend the chain of analogies quite around the globe. Passing, however, over the intermediate space, we come at once to the British Islands.

PRIMITIVE TEMPLES OF THE BRITISH ISLANDS.

- The British Islands, and the portion of the continent adjacent to them, abound in ancient monuments, closely allied to those under consideration. They have been very accurately investigated and described by Camden, Borlase, Douglas, Hoare, Cunnington, Higgins, Deane, and numerous others; and the world is familiar with their character. The researches of these investigators have directed upon them all the lights of erudition. Availing ourselves at once of the results of their labors, we apply them to the elucidation of the mysterious monuments of our own country.

The analogies which exist between one class of ancient British remains and a corresponding class of American structures, have already been briefly pointed out. There is, however, another large division, more numerous and more interesting than these, of widely different form and manifestly different design. These consist, for the most part, of circular structures, of greater or less dimensions, composed of earth or of upright stones placed at short distances apart. These circles are sometimes of great size, embracing many acres of ground; but most are of moderate dimensions, corresponding in this as generally

in other respects with those of this country. They are regarded by all well-informed British antiquaries as religious in their origin, and connected with the ancient Druidical system. This conclusion is not entirely speculative, but rests in a great degree upon traditional and historical facts. Borlase observes, "The grandeur of design, the distance of the materials, the tediousness with which all such massivé works are erected, all show that they were the fruits of peace and religion." "That they were erected," says Hoare, "for the double purpose of civil and religious assemblies, may be admitted without controversy. They were public edifices, constructed according to the rude fashion of the times, and at a period when the Deity was worshipped in the most simple and primitive manner, under the open canopy of heaven."—(*Ancient Wiltshire*, vol. II., p. 122.) Cæsar, writing of the Druids, is understood to allude to their sacred structures in the following terms: "*Druides, certo anni tempore, considunt in loco consecrato. Hinc omnes undique qui controversias habent conveniunt, eorumque judiciis decretisque parent.*"—(*Cæsar, de Bello Gallico*, Lib. VI.) "Once a year the Druids assemble at a consecrated place. Hither such as have suits depending flock from all parts, and submit implicitly to their decrees." It need not be added, that the Druids were priests and judges, the expounders of religion and the administrators of justice; they were entrusted with the education of youth, and taught the motions of the stars, the magnitude of the earth, the nature of things, and the dignity and power of the gods. They officiated at sacrifices and divinations; they decided controversies, punished the guilty, and rewarded the virtuous. Their power was superior to that of the nobles, over whom they wielded the terrors of excommunication from a participation in the imperative rites of their religion. They centred in themselves the occult learning of the day, which seems to have been closely allied to that of Phœnicia, if not, indeed, mainly derived from the East.

"The sacred places of the Druids were inclosed sometimes with a fence of palisades, and sometimes with a mound of earth,

or with stones, to keep off the profane, and prevent all irreverent intrusion upon their mysteries.* Tacitus relates that the early Germans considered their groves and woods as sacred: these spots were consecrated to pious uses, and the holy recess took the name of the divinity who filled the place, and whose sanctuary was never permitted to be seen but with reverence and awe. Agreeable to this was the early practice of the Britons, who, according to the same authority, used similar customs with the Germans."—(*Germania*, C. ix. and C. xl.) In the form of their temples, the Druids, for the most part, adopted the circle; and the generally received opinion is, that all *circular monuments* were originally intended for devotional purposes.

There are some earth-works in the British Islands, which were clearly not defensive, but yet are rectangular. To these, authors have hesitated in ascribing a date. One of the most singular of these, which corresponds very nearly with that discovered near Tarlton, Pickaway county, Ohio (*Ancient Monuments of the Mississippi Valley*, Plate XXXVI, No. 1), occurs



FIG. 47.

* *Salopia Antiqua*, p. 10. Hermoldus, in his *Chronicon de Rebus Sclavie*, says that the Sclavonians prevented all access to their groves and fountains, which they considered would become desecrated by the entrance of Christians. They had their sacred oaks, which they surrounded by a fence of wicker-work. The *tabooed* palms and other trees of the Marquesas and South Sea Islanders are protected from profane contact in a like manner.

upon Banwell Hill, county of Wilts, England. The engraving on the preceding page (Fig. 47) is reduced from the plan given by Sir R. C. Hoare, who notices it briefly as follows: "Before quitting this interesting eminence, I must not omit to take notice of a very singular little earth-work, situated toward the village of Banwell. Its form proclaims it to be Roman; but I cannot conceive to what use it was destined. The embankment inclosing the cross is two hundred and thirty yards in extent, and incloses nearly three-quarters of an acre."—(*Ancient Wiltshire*, vol. II.; *Roman Era*, p. 43.) There is certainly a most striking coincidence; yet it is one which it would be unsafe to regard as any other than accidental.

It may not be wholly inappropriate to mention that some of the most ancient temples of India are built in the form of a cross; such is the shape of the great temple at Benares, and that at Mathura. At the intersection of the four arms rises a lofty dome. Such also is the shape of the subterranean temple of New Grange, in Ireland.—(*Tavernier*, vol. III., pp. 30, 47; *Faber's Pag. Idol.*, vol. III., p. 287; *Higgins's Celtic Druids*, p. 40.)

The circular form is certainly best adapted for the reception of the devotees desiring to see and hear, or to participate in parts of the sacrificial rites practised within them. But it is claimed, and upon an array of evidence which will admit of no dispute, that the form of the primitive temple was, with great uniformity, that of the symbol of the religion to which it was consecrated, or of the god to whose worship it was dedicated.

The circle is the uniform symbol of the sun, alike among the most savage as the most enlightened nations; and the fact that most of the ancient religious structures of the British Islands are of that form, would seem to imply that the god of Celtic adoration was symbolized as the Sun, and that the ancient Celtic religion was a modification of what is usually termed sun or fire worship. This implication is sustained by abundant evidence, into which it is impossible, as it would be out of place, to enter

here. We have every reason for believing that the objects of the Druidical worship were identical with those of the followers of Baal (the Sun).^{*} Like them, the Druids were addicted to the study of the heavens, and in the same way they offered up sacrifices to Baal, Bel, Belus, Belinus, Moloch, Apollo, or the Sun. The connection of Druidism with the name of Baal, is well known in the lines of Ausonius—himself a Druid—who writes:

"Tu Baiocassis, stirpe Druidum satus,
Si fama non fallit fidem,
Belini sacratum ducis e templo genus."

Cæsar says the Gauls worshipped Apollo: the Gauls were followers of the Druidic rites according to the same authority.

SYMBOLISM OF TEMPLES.

The rationale of symbolism, as connected with temples, next claims our attention. Not only was the doctrine of occasional presence of universal acceptance among the followers of every early religious system, but they believed that the gods made temples and sacred structures their places of constant abode. Their presence, in some instances, was supposed actually to animate their shrines, and to consecrate the earth around them. The Jews were assured that Jehovah dwelt between the emblematic cherubim. In the hope of rendering his homage in the

^{*} *Salopia Antiqua*, p. 7. The evidence upon this point, as remarked in the text, is alike abundant and conclusive. The Phenicians, who undoubtedly penetrated into the British Islands at a very early day, introduced many of their own habits and superstitions. They were the carriers of customs and opinions, as of wares, and dispersed the seeds both of African and Asiatic idolatry in Europe. This conclusion is sustained not only by the striking resemblance between many of the religious rites of the ancient Celts and those of Assyria and Egypt, but by etymological evidences of a most positive character.—(*Thackeray's Ancient Britain*, vol. I., pp. 10, 11: also, *Introduction to Ancient Wiltshire*, and *Higgins's Celtic Druids*, ubi supra.)

actual presence of his God, the Mohammedan pilgrim makes his weary journey to Mecca, and the Hindu devotee seeks, from the remotest provinces, the shrine of Jaggenath. The same idea of a living presence is manifested in the superstition of the savage, who regards every remarkable tree, rock, cave, spring, or stream, as the evidence or actual impersonation of a divinity, and renders his homage in accordance with his belief.

The presence of the gods was formerly supposed to be favorable, and powerfully conducive, if not indispensably necessary, to the prosperity of cities and nations; and as such was ever desired and ever a cause of joy and exultation. The poet Horace addresses the goddess Venus in terms significant of the benefits resulting from her presence :

" O Goddess in blest Cyprus dwelling,
And Memphis wanting of Sithonian snow !"

So, too, Homer alludes to the celestial mountain of Greece :

" Olympus famed, the safe abode of gods,
By winds is never vexed, nor drenched with rain.
Snow falls not; but the cloudless arch serene
Widely expands; with brightness ever clear."

Influenced by opinions such as these, we can readily understand how the temple might take the symbolical form of the god to whose worship it was dedicated; thereby being made more acceptable as his abode, at the same time that its form proclaimed his presence. Sallust, in his treatise on the Gods and the World, illustrates this ancient doctrine in the following words : " As the providence of the gods is everywhere extended, a certain habitude or fitness is all that is necessary in order to receive their beneficent communications. But all habitude is produced through imitation and similitude; and hence temples imitate the heavens, but altars the earth; statues resemble life, and on this account are similar to animals, etc."*

* The Pantheon at Rome was dedicated to all the gods; who, instead

The earth, remarks an ingenious writer, being regarded as God by a large portion of the heathen world, any structure bearing that form might justly be considered as a symbol of the Deity, indicative of his power and his presence. The import of the symbol caused the conviction and assurance that all sacred structures ought, of necessity, to be constructed in its form.—(*Dudley on Symbolism*, p. 43.)

This conviction seems to have prevailed among the Hebrews: the "Ark of the Covenant," in which were deposited the tables of the law, was essentially symbolical in its form. The form of the Tabernacle in the wilderness, and of the great temple on Mount Zion, we may infer, was regarded as a matter of importance, from the specific directions given for their construction. And the primitive Christians, we are assured, were in a like manner influenced in the form of their sacred edifices.*

Vesta, in the later mythologies, was the igneous element personified; her globular temple on the banks of the Tiber represented, we are told, the Orb of the Earth, cherished and

of rude shrines consecrated to each, as in the great temple of Mexico, had their statues placed within the vast rotunda. The great concave dome, we are expressly told by Pliny, was designed to represent the vault of heaven; "quod forma ejus convexa fastigiatam celi similitudinem ostenderet." Yet it seems to have been eminently a temple of the solar Apollo, whose colossal image was placed immediately in front of the entrance, the first and most imposing object which met the eye of the spectator.—(*See Faber, Pagan Idolatry*, vol. III., p. 284; *Maurice, Ind. Antiq.* vol. III., p. 185.) Mr. Dudley, who claims that the circle and the square were the symbols of the reciprocal powers of nature, assumes that the circular Pantheon, with its quadrangular portico, was intended to signify the union of the two principles or powers.—(*Natology*, p. 300.)

* "In respect to the form and fashion of their churches, it was for the most part oblong, to keep (say some, vide *Constit. Apost.*, L. ii. C. 57) the better correspondence with the fashion of a ship: the common notion or metaphor by which the church was wont to be represented." (*Cave's Prim. Christianity*, p. 65.)

made prolific by the central fire.—(*Maurice, Ind. Antiq.*, vol. III., p. 130.) The reason for the orbicular or oval form of her temple was recognized in Ovid's day. He writes:

"What now is roofed with brass, was then of straw,
And the slight osler formed the wattled wall.
This spot, that now the fane of Vesta bears,
The palace was of Numa, king unshorn.
'Tis said the form is now, as erst of old;
And the true reason may be well approved:
Vesta and Earth are one. A ceaseless fire
Burns in them both, and both alike pervades.
The earth, a globe supported on no prop,
Hangs, heavy weight, in all-subjected air."

Ovid, Fast., Lib. VI., 261.

Plutarch alludes, in similar terms, to the symbolical significance of the form of this temple. "Numa built a temple of orbicular form, for the preservation of the sacred fire; intending by the *fashion* of the edifice to shadow out, not so much the earth, or Vesta considered in that character, as the *whole universe*; in the centre of which the Pythagoreans placed fire, and which they called Vesta and Unity."*

* *Plutarch de Iside et Osiride*. M. Raimée has well expressed this idea in his "*Histoire Générale de l'Architecture*," from which we translate the following passage:

"Among all the people of antiquity, intimately connected with the idea of God, was that of the Earth as his habitation, and Heaven as his eternal home. The universe, and especially the visible heavens, was for this reason considered as a true Temple of the Divinity, built by Himself, and was held as the primitive Temple, to be taken as a model, as the type of all temples to be raised by the hand of man. It was, therefore, considered unworthy of God and contrary to the idea held of Him, to erect sanctuaries to the Supreme Being on the same plan as the houses which man built for himself as a shelter and protection against the changes of the seasons. A habitation for God, it was thought, should resemble the Universe; and for that reason it would bear a divine character, and the Divinity would therein be, as it were, at home. Hence the construction of temples was regarded, in all antiquity, as a religious or hieratic art, the inventors and masters of which, at first, were the gods themselves."

The notions already alluded to as influencing the *forms* of temples, controlled also the choice of their position, the nature of their materials, and, when they were advanced from their primitive rudeness, the character of their ornaments. The crescent crowns the minaret of the Mohammedan; the symbolic trident of Siva, the dome consecrated to his worship; and the cross, in like manner, designates the church of the Christian. The significance of the trident is not less obvious to the Hindn, than that of the crescent to the Turk, or the symbol of his religion to the Christian; yet to the stranger to each, they would possess no higher value than might attach to them in their character of ornaments.

Were it necessary to our purpose, the illustrations of the various points here indicated might be greatly extended. Enough has, however, been said to place in a plausible light the fact (which probably no one would be disposed to deny), that the form of the primitive temple was, to an eminent degree, symbolical. In the words of Deane, "The figure of the temple, in almost every religion with which we are acquainted, is the hierogram of its god. The hierogram of the sun was always a circle: the temples of the sun were circular. The Arkites adored the personified ark of Noah: their temples were built in the form of a *ship*. The Ophites adored a serpent deity: their temples assumed the form of a *serpent*. And to come home to our own times and feelings, the Christian retains a remnant of the same idea when he builds his temples in the form of a *cross*; the cross being at once the symbol of his creed, and the hierogram of his God."—(*Observations on Dracontia*, by Rev. J. B. Deane, *British Archaeologia*, vol. XXV., p. 191.)

It is the fact that the religious conceptions, the philosophy and physical speculations of the ancients, exerted a controlling influence upon the construction of their sacred edifices, that invests those monuments with interest, not only as works of art, but as illustrations of man's primitive beliefs,—his notions

of cosmogony, and his philosophy of the earth and heavens. "On every review," observes an eminent author, "and from every region, accumulated proofs arise, how much more extensively than is generally supposed the designs of the ancients in architecture were affected by their speculations in astronomy, and by their mythological reveries."—(*Maurice, Ind. Antiq.*, vol. III., p. 199.)

Having already taken this brief survey of the character of the various primitive religious structures of various parts of the world, and having indicated the principles upon which those with the origin of which we are acquainted, sustaining the closest analogy to those of our own country, were constructed, we return with new aids to the investigation of the latter.

As has already been several times observed, the aboriginal temples, or rather sacred inclosures, of the Mississippi valley are nearly all of regular figures, usually circular or elliptical, sometimes square or rectangular; exhibiting in this respect, as also in their manner of combination, a uniformity which could only result from a fixed and well-recognized design. Nothing can be more obvious than that they were built in accordance with a general plan, founded upon certain definite principles; and it is impossible to resist the conviction that their various forms and combinations possessed some degree of significance, and sustained some relation to the worship to which they were dedicated. We arrive at these conclusions from a simple contemplation of the monuments themselves, unaided by the suggestions of analogy, or the evidence furnished by the concurrent practice of all early nations.*

When, however, we find these conclusions sustained by analogies of the most striking character, and discover that the mythological and philosophical notions of primitive nations ex-

* "Nothing," says M. Leibnitz, "happens without a reason why it happens so rather than otherwise."

hibited themselves in a symbolical system which extended even to the form, position, and ornaments of their temples, then our conclusions become invested with a double value, and we proceed with some degree of confidence to inquire how far we are justified in supposing that the ancient structures of the Mississippi valley indicate the character of the worship to which they were dedicated. We have, it is true, neither the light of tradition nor of history to guide our inquiries; the very name of the mysterious people by whom these works were erected is lost to both, and a night darker than that which was prophesied should shroud the devoted "cities of the plain" rests upon them. Under these disadvantages, every attempt to clear up the darkness may fail; if, however, but partially successful—if but a single ray of light be directed upon the subject of our inquiries, the attempt will not be in vain, nor stand in need of an apology.

By far the larger proportion of the sacred structures of our country are circular in form; so also were the temples of the ancient Celts, for the received reason that they were dedicated to the worship of the Sun, whose most obvious and almost universal symbol is the circle. Assuming, upon the basis of this and other analogies, that their circular form is allusive to the former existence, among the people by whom they were built, of a similar system or form of worship, what further support do we find for the assumption, in the known religious notions of the various American tribes and nations? If, in answer to this question, it should be found that *Sun Worship*, if not of universal prevalence, greatly predominated throughout the continent, the assumption already so well sustained by analogy rises into the dignity of a well-supported hypothesis.

It has already been remarked, in another connection, that the worship of the Sun was not less general in America than it was at one period among the primitive nations of the Old World. It existed among the savage hunter-tribes and among the semi-civilized nations of the South; where it assumed its

most complicated and imposing form, and approximated closely to that which it sustained at an early period among the Asiatic nations—the Egyptians, Assyrians, Hindoos, Scythians, and their offshoots in Europe. It is well known that it predominated in Peru, and was intimately connected with the civil institutions of that empire. The race of the Incas claimed their descent from the sun; to that luminary they erected their most gorgeous temples; and the eternal fire, everywhere emblematic of its influences, was watchfully maintained by the virgins consecrated to its service. The royal Inca himself officiated as priest of the sun, on every return of its annual festival. The Peruvians also paid adoration to the moon, as the “wife of the sun,”—a clear recognition of the doctrine of the reciprocal principles. In Mexico also, as in Central America, we still discover, beneath a complication of strange observances and bloody rites, the simplicity of Toltecan Sabianism. Upon the high altars of Aztec superstition, recking with the blood of countless human victims, we still find the eternal fire; no longer, however, under the benign guardianship of consecrated virgins, but consigned to the vigilance of a stern and rigorous priesthood. And, as the Inca trusted at his death to be received to the bosom of his father, the Sun, so too did the fiercer Aztec look forward with confidence to eternal existence and beatitude in the “House of the Sun.”*

The Natchez and their affiliated tribes were worshippers of the sun, to which they erected temples and performed sacrifices. And from what can be gathered concerning their temples, it is rendered probable that they erected structures analogous to those under notice. They also maintained a perpetual fire, and their chiefs claimed the sun as their father. The chiefs bore the distinguishing title of *Suns*, and united in themselves

* *Clavigero*, vol. II., p. 8. “They held for an assured faith that there were nine places appointed for souls, and the chiefest place of glory was to be near the sun.”—(*Gomera*, in *Purchas*, vol. III., p. 1137.)

the priestly and civil functions.—(*Charlevoix, Canada*, vol. II., p. 273; *Du Pratz, Hist. Louisiana*, vol. II., pp. 178, 212; *Herriot, Hist. Canada*, p. 508.) The natives of the Barbadoes and the West India islands generally, worshipped the same celestial body in conjunction with the moon.—(*Edward's Hist. W. Ind.*, vol. I., p. 80; *Davis's Barbadoes*, pp. 216, 236; *Herrera*, vol. I., p. 162.) The Hurons derived the descent of their chiefs from the sun, and claimed that the sacred pipe proceeded from that luminary.—(*Charlevoix, Canada*, vol. I., p. 322; *Lafiteau*, vol. I., p. 121.) The Pawnees, Mandans, and Minatarees had a similar tradition and a kindred worship.—(*Nuttall's Arkansas*, p. 276.) The Delawares and the Iroquois offered sacrifices to the sun and moon; and, in common with the southern Indians, had a festival in honor of the elementary fire, which they considered the first parent of the Indian nations. It is probable that their council-fire was an original symbol of their religion.—(*Loskiel*, pp. 41, 43; *Colden's Hist. Five Nations*, vol. I., pp. 115, 175; *Schoolcraft's Narrative*, p. 20; *Bradford's Res.*, p. 352.) The Virginian tribes were also sun worshippers, and sustained the perpetual fire in some of their temples. The same is true, as we have already had occasion to show, in a remarkable manner, of the Floridian tribes; who, if we are to credit the accounts of the early voyagers, sacrificed human victims to the sun.—(*Ribauld*, MS.; *Le Moyne*, in *De Bry*; *Herrera, Florida*; *Lafiteau, Moeurs des Sauvages*, vol. I., p. 158; *Rocheport, Hist. Antilles*, Chap. 8.)

The Esquimaux, the natives of the Northwest Coast, and the California Indians, all shared in this worship.—(*Hall's Voy.* (1631), pp. 38, 61; *Vanegas's California*, vol. I., p. 164.) It prevailed to an equal extent among the savage tribes of South America. In connection with the worship of the moon, it existed among the Muyscas of Colombia, among the Araucanians, the Puelches, and the Botucados of Brazil.—(*Herrera*, vol. V., p. 90; *Molina*, vol. II., p. 71; *Dobrizhoffer*, vol. II., p. 89; *Mod. Trav. in Brazil*, vol. II., p. 183.) The caziques of the

Guaranies, like those of the Natchez, were called *Suns*, and claimed a like lofty lineage. The evidence upon this point might be greatly extended, but enough has been adduced to establish the general predominance of Sun Worship in America.*

It will be seen, from this hasty survey, that the hypothesis which ascribes to the square, circular, and other regular structures of the Mississippi valley a religious origin, and to their forms a symbolical significance, is sustained not only by the most obvious circumstances of structure and position, but also by striking analogies, derived from the form and known character of corresponding structures in other parts of the world. It is further sustained by the nature of the worship, which, from its wide diffusion and great prominence among the American nations, we are justified in supposing was elementary and pervaded the American continent from the earliest period.

It may be objected that a portion of these structures are square or octangular, and cannot therefore, whatever may be said of those bearing a circular form (and which are by far the most numerous), be regarded as symbolizing the sun, or indicating the prevalence of sun worship among the builders. Any attempts to answer this question would doubtless involve a very extended inquiry into the form and connections which this worship assumed, both in the Old and New Worlds, and would

* "Sun worship existed extensively in North as well as South America. There is reason to believe that the ancestors of all the principal existing tribes of America worshipped the *Eternal Fire*. Both from their records and traditions, as well as their existing monuments, this conclusion is irresistible. * * * Among the North American tribes, the graphic *Ké-ke-wén*, which depicts the sun, stands on their pictorial rolls as the symbol of the Great Spirit; and no important rite or ceremony is undertaken without an offering of tobacco to him. The weed is lit from fire generated anew on each occasion."—(*Schoolcraft, Address before N. Y. Hist. Soc.*, 1846, p. 29.) "They believe in the sacred character of fire, and regard it as the mysterious element of the universe typifying divinity."—*Ib.*, p. 35.

perhaps, after all, bear too much the character of a mere speculation to be satisfactory, or in any degree conclusive. For this reason no attempt of the kind will be made. The observations which follow are thrown out suggestively, as furnishing the possible if not the probable principles upon which some of these structures were built, and the reasons which may have influenced the singular combinations which we observe between them.

It can be shown that the doctrine of the reciprocal principles of nature, which entered so largely into the early idolatry of the Eastern World, prevailed also in America. The sun and the moon, or oftener, the sun and the earth, emblemized these principles. According to Mr. Dudley and other writers on symbolism, these powers among the primitive idolaters were figuratively represented: the male principle by the *circle*, the female principle by the *square*.* The same authorities lay it down as a rule, subject to few exceptions, that whenever the circular form is adopted in sacred structures, the worship of the male principle is indicated; but when the quadrangular, then the female principle. "At one time," says Mr. Dudley, "the ancient world was divided in the worship of the two powers; but time and various circumstances contributed to effect a compromise, which resulted in the combination of the two figures, or the adoption of the octagonal form instead." Mr. Dudley instances several examples of these combinations among the early Grecian and Celtic remains, and observes, "if the sacred structures of early antiquity were examined with reference to this doctrine, many and ample proofs of its truth would be discovered."—(*Natology*, pp. 345, 358, *ubi supra*.)

* "The Chinese have consecrated two temples, one to the Heavens, the other to the Earth: the first is round, the second square, according to the theory of their learned men; who, with the Pythagoreans, regard the earth as a *cube*, and the heavens a *sphere*."—(*De Pau, Res. China and Egypt*, vol. II., p. 42.)

If we were to adopt the hypothesis advanced by Mr. Dudley, the fact that the American nations almost universally entertained the idea that the earth was square, would become invested with importance.

But, as already observed, these latter suggestions are simply thrown forward as plausible, and not as indicating a settled opinion. The refinement of symbolism which they imply, will, however, appear less improbable, when we come to learn to what extent the semi-civilized nations of America, in their religious beliefs and conceptions, display an identity with the primitive nations of the Old World.

The hypothesis of a symbolical design in the forms and combinations of these structures may seem somewhat new and startling to most minds. There are, however, many other facts and considerations having a direct bearing upon it, which will appear in a succeeding work. Meantime, and before passing to collateral inquiries, it will not be out of place to repeat, that the great size of many of the structures to which we have assigned a sacred origin, precludes the idea that they were temples in the ordinary acceptation of the term. It is probable that, like the great circles of England, the squares of India, Peru, and Mexico, they were the sacred inclosures within which were erected the shrines of the gods of the ancient worship, and the altars of the ancient religion. They may have embraced consecrated groves, and, as they did in Mexico, the residences of the ancient priesthood. Like the sacred structures of the country last named, some of them may have been secondarily designed for protection in times of danger.

CHAPTER XVI.

USE OF COPPER AND SILVER BY THE AMERICAN ABORIGINES.

IN the paragraphs relating to St. Lawrence county, mention is made of a singular aboriginal deposit or burial, on the Canadian shore of the St. Lawrence River, near Brockville. Here were found a number of skeletons and a variety of relics, among which were a number of copper implements. They were buried fourteen feet below the surface of the ground. Two of the copper articles were clearly designed as spear-heads: they were pointed, double-edged, and originally capable of some service. One was a foot in length. A couple of copper knives accompanied these, and also an implement which seems to have been designed as a gonge.—(*Ancient Monuments of Mississippi Valley*, p. 201.) Some implements entirely corresponding with these have been found in Isle Royal, and at other places in and around Lake Superior. Whether or not these are relics of the existing Indian tribes, it is not undertaken to say, although it seems highly probable that they are. That the Indians of New England, New York, and Virginia, to a limited extent, possessed copper ornaments and implements at the time of the Discovery, is undoubted; but it is not to be supposed for an instant that they obtained it by smelting from the ores. They unquestionably procured it from the now well known native deposits around Lake Superior.

Raleigh observed copper ornaments among the Indians on the coast of the Carolinas; and Verrazano mentions articles, probably ornamental, of wrought copper, among the natives which he visited in a higher latitude, "which were more es-

teemed than gold." Granville speaks of copper among the Indians of Virginia, which was said to have been obtained among the *Chawanoos* (Shawanoes?). "It was of the color of our copper, but softer." He endeavored to visit the place where it was represented to be found; but after a toilsome journey of some days into the interior, the search was abandoned. This was a grievous disappointment at that time, when the minds of men were filled with visions of vast mineral wealth, and when the value of the New World was thought to consist in its mines. Granville thus concludes his account of his fruitless expedition: "I have set down this voyage somewhat particularly, to the end that it may appear unto you (as true it is) that there wanted no good will, from the first to the last of us, to have perfected the discovery of this mine; for that the discovery of a good mine, by the goodness of God, or a passage to the South Sea, or some way to it, and nothing else, can bring our country in request to be inhabited by our people."—(*Granville's Voy.*, 1585, in *Pinkerton*, vol. XII, p. 580.) Heriot says, "In two towns 150 miles from the main, are found divers small plates of copper, that are made, we are told by the inhabitants, by people who dwell farther in the country, where, they say, are mountains and rivers which yield white grains of metal, which are deemed to be silver. For the confirmation whereof, at the time of our first arrival in the country, I saw two small pieces of silver, grossly beaten, about the weight of a *tester*, [an old coin about the weight of a sixpence sterling.] hanging in the ears of a Wiroance. The aforesaid copper we found to contain silver."—(*Heriot's Voy.*, 1586, in *Pink.*, vol. XII, p. 594.) Robert Juet, in his account of Hudson's discovery of the river which bears his name, asserts that the savages "had red copper tobacco pipes, and other things of copper, which they did wear about their necks." He makes mention, in another place, of "yellow copper," as distinct from what he terms "red copper." Both Behring and Kotzebue found copper implements in use among the Indians of the Northwest

Coast.—(*Behring's First Voy.*, p. 85; *Kotzebue, Voy.*, vol. I., p. 227.) McKenzie mentions copper as being in common use among some of the extreme Northern tribes, on the borders of the Arctic Sea. "They point their arrows and spears with it, and work it up into personal ornaments, such as collars, earrings, and bracelets, which they wear on their wrists, arms, and legs. They have it in great abundance, and hold it in high estimation."—(*Second Journey*, p. 333.) Owing to the difficulty of reducing iron from the ore, an acquaintance with that metal has usually been preceded by a knowledge of copper, silver, and gold. "These three metals," says Robertson, "are found in their perfect state in the clefts of rocks, in the sides of mountains, or in the channels of rivers. They were accordingly first known and applied to use. But the gross and stubborn ore of iron, the most serviceable of all metals, and to which man is most indebted, must twice feel the force of fire, and go through two laborious processes, before it becomes fit for use." Says Lueretius :

"Sed prius arsis erat, quam ferri cognitus usus."

It was the difficulty of obtaining iron from the ores, or the possession of the art of so tempering or hardening copper as to make it answer most of the purposes to which steel is now applied, one or both, that perpetuated the use of bronze instruments in Egypt, as well as in Greece and Rome, long after those nations became acquainted with the former metal.

It may be regarded as certain, that the American aborigines, at the period of the Discovery, were in ignorance of the uses of iron. It is true Vespucius mentions a tribe of natives near the mouth of the La Plata, in South America, who possessed iron points to their arrows. It was probably obtained from native masses in that vicinity. The inhabitants of Madagascar obtain a part of their iron from such sources.* A late traveler

* *Lieut. H. C. Flagg, Trans. Am. Association, 6th Meeting*, p. 40. It

in Chile observes: "It appears that the Indians of Chile had, at the time of their discovery, in some very rare instances, iron blades to their lances; which led to the erroneous supposition that they were so far advanced in metallurgy as to be able to reduce and refine that metal from the ores. Our surprise will cease upon recollecting that this valuable metal already existed naturally in South America, in the very extensive deposits of native iron at *Santiago del Estero*, which has proved to be of meteoric origin, and differing from that at *Zacatecas* and *Durango* in Mexico, described by Humboldt, in the absence

is unnecessary to remark, that all accounts of the discovery of iron in the mounds, or under such circumstances as to imply a date prior to the Discovery, are sufficiently vague and unsatisfactory. The fragment of an iron wedge, found in a rock near Salem, Washington County, Ohio, and which has been alluded to by several writers upon American antiquities, does not probably possess an antiquity of more than fifty years. It is now in the possession of Dr. S. P. Hildreth, of Marietta; and its history, stripped of all that is not well authenticated, is simply that it was found fastened in the cleft of a rock, and no one could tell how it came there! The author of the paper on American antiquities, in the first volume of the *Archæologia Americana*, states that, in a mound at Circleville, Ohio, was found among other articles "a plate of iron which had become an oxyde; but before it was disturbed by the spade, resembled a plate of cast iron.—(*Archæol. Am.*, vol. I., p. 178.) It is obviously no easy matter to detect iron when fully oxydized in the earth; and when we are obliged to base our conclusions respecting the use of that metal, by an evidently rude people, upon such remains, if any there be, the strictest examination should be given them; appearances alone should be disregarded, and conclusions, after all, drawn with extreme caution. Whether it is likely the requisite discrimination and judgment were exercised in this case, it is not undertaken to say. But few masses of native iron, and these of small size and meteoric origin, have been found in this country; consequently the presence of iron to any extent among the mound-builders, can be accounted for only on the assumption that they understood the difficult art of reducing it from the ores, which involves a degree of knowledge, and an advance in the arts of civilization, not attained by the Mexicans nor by the Peruvians, and not sustained by the authenticated remains of the mounds.

of earthy matter, and in not being, like them, in round masses, but in a horizontal bed of considerable extent and variable thickness, now for the most part covered with drifting sand, and resting on a bed of the same material."—(*Mier's Travels in Chile, etc.*, vol. II., p. 464.) Copper, on the other hand, seems to have been very abundant, and much used for implements, among all the semi-civilized nations of the continent. Columbus, when at Cape Honduras, was visited by a trading canoe of Indians. Among the various articles of merchandise which constituted their cargo, were "small hatchets, made of copper, to hew wood, small bells and plates, crucibles to melt copper, etc."—(*Herrera*, vol. I., p. 260.) When the Spaniards first entered the province of Tuspan, they found the Indians in possession of an abundance of copper axes, which, in their greediness, they mistook for gold, and were much mortified upon discovering their mistake. "Each Indian," says Barnal Diaz, "had, besides his ornaments of gold, a copper axe, which was very highly polished, with the handle curiously carved, as if to serve equally for an ornament as for the field of battle. We first thought these axes were made of an inferior kind of gold; we therefore commenced taking them in exchange, and in the space of two days had collected more than six hundred; with which we were no less rejoiced, as long as we were ignorant of their real value, than the Indians with our glass beads." In the list of articles exacted as an annual tribute from the various departments of the Mexican empire, as represented by the Mexican paintings, were "one hundred and sixty axes of copper" from the southern divisions.

Fig. 48 is copied from the tribute tables, and illustrates the form of the axes required to be paid to the emperor. This seems to have been the usual form, which, however, was sometimes slightly modified, so as to give them a broader cutting edge. The following example, Figs. 49 and 50, are drawings of originals



FIG. 48.

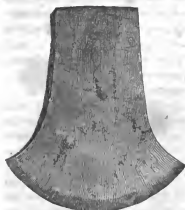


FIG. 49.



FIG. 50.

obtained by Du Paix, and published among the plates of his antiquarian tour. They are engraved of one fourth their actual size.

They were part of a deposit of two hundred and seventy-six,

of like character, found buried in two large earthen vases, in the vicinity of Oaxaca, and are of alloyed copper, and cast. "Such," says Du Paix, "are much sought by the silversmiths, on account of their fine alloy."

Fig. 51 is a chisel, of similar composition, found in the



FIG. 51.

vicinity of Mexico, and also figured by Du Paix. It is engraved *one fourth* of the original size.

The methods in which these axes were used are well shown in the subjoined cuts, faithfully copied from the Mexican paintings, Figs. 52 and 53. They require no explanation



FIG. 52.



FIG. 53.

FIG. 54.
12*

beyond what is furnished by Clavigero, who says: "The Mexicans made use of an axe to cut trees, which was also made of copper, and was of the same form as those of modern times, except that we put the handle in an eye of the axe, while they put the axe in an eye of the handle." Fig 54 is copied from the Mendoza Paintings, and represents a carpenter using one of these axes, or one very similar, adjusted, probably, so as to answer the purpose of an *adzc*.

In the Mexican battle paintings, we occasionally observe weapons, the blades of which were of copper, as is shown by their green color, and which were used something after the manner of the battle-axe. Examples are here given, Fig. 55.



FIG. 55.

But although copper was used for such purposes, it does not appear that it entirely substituted itself for stone; for stone axes, and weapons formed by inserting blades of obsidian or *itzli* in solid pieces of wood, were common as late as the period of the Spanish conquest. The instrument thus formed was called *mahquahuittl*, and was much dreaded by the Spaniards, who told wonderful stories of their efficiency, affirming that a single stroke was sufficient to cut a man through the middle, or decapitate a horse. Figs. 56 and 57 are examples from the paintings, and Fig 58 is copied from the monuments at Chichen Itza, in Yucatan. The latter represents an axe, or rather,



FIG. 56.



FIG. 57.



FIG. 53.

weapon of war, made by inserting blades of obsidian in a handle of wood, as above described. It will be seen by reference to vol. I., p. 211, of the Smithsonian Contributions, that there is reason to believe that an entirely corresponding practice prevailed among the mound-builders. The device is an extremely



FIG. 59.

simple one, and seems to have been common to many rude nations.

The copper axes of ancient Egypt closely resembled those above described, both in form and the mode of attachment to the handle. The illustration on the preceding page, Fig. 59, reduced from one of Visconti's plates, represents one of unique and ornamental workmanship. It will be observed that it is also lashed to the handle with thongs: differing from the primitive American axe only in the manner of insertion. In this instance the broad end of the tool is sunk in the wood

The Mexicans also used copper to point their spears and arrows; although here obsidian was often substituted. Fig. 60 is a represen-



FIG. 60.

tation of a short javelin, which we find of frequent occurrence in the paintings, and which seems to have been used only in close combat. The long javelin, or that which was thrown from the hand, is well shown in Fig. 61, which exhibits the man-

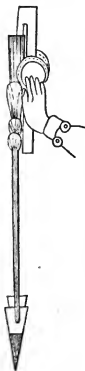


FIG. 61.

ner in which it was thrown, and also the *xuialtalli*, or instrument used in throwing it, and by means of which it was sent with greater accuracy and force than could otherwise be attained. The gods are almost always represented, in the mythological paintings, holding the *xuialtalli* in their hands. It is often fancifully ornamented with tassels and feathers.

The Peruvians used copper for precisely the same purposes with the Mexicans. Says La Vega, "They make their arms, knives, carpenters' tools, large pins, hammers for their forges, and their mattocks, of copper; for which reason they seek it in preference to gold." And Ulloa adds, "The copper axes of the Peruvians differ very little in shape from ours; and it appears that these were the implements with which they performed most of their works. They are of various shapes and sizes; the edge of some is more circular than others, and some have a concave edge."—(vol. I., p. 483.)

The knowledge of alloying was possessed by both the Mexicans and Peruvians, whereby they were enabled to make instruments of copper of sufficient hardness to answer the purposes for which steel is now deemed essential. Their works in stone and wood, whether in dressing the huge blocks of porphyry composing some of their structures, or in sculpturing the unique statues which are found scattered over the seats of their ancient cities, were carried on entirely with such instruments, or with still ruder ones of obsidian and other hard stones.

The metal used as an alloy was tin; and the various Peruvian articles subjected to an analysis, are found to contain from three to six per cent. of that metal. The chisel analyzed by Humboldt contained copper 94, tin 6.—(*Res.*, vol. I., p. 260.) Figure 62 is a reduced sketch of a copper knife found in Peru, by J. H. Blake, Esq., of Boston. It has about four per cent. of tin. This gentleman informs me, that "the knives, gravers,



FIG. 62.

and other implements found by myself in Peru, contain from three and a half to four per cent. of tin, which is sufficient to give them a very considerable degree of hardness.* The knives which I send you were found about the person of a mummy which I took from an ancient cemetery near Arico. Various household articles were found with it; but these were the only ones of metal, except a medal of silver suspended around the neck. The chisels or gravers are pointed at one end, with a cutting edge at the broad part. They were found at various places in the northern part of Peru. At the ancient city of Atacama, I found several hoes of copper, shaped very much like the 'grubbing-hoes' to be found in our warehouses."

Figure 63 is a reduced sketch of an ancient Peruvian spear-head, of copper, found in a Peruvian *huaca* or tumulus, near Lima, whence it was brought by the late Dr. Marmaduke Burroughs, in 1826, and by him presented to Dr. S. G. Morton, of Philadelphia, in whose possession it now is. It is somewhat flattened, and regularly four-sided from the point to within a third of the distance from the larger end, where it be-

* The Indians of Chile, previous to the discovery by the Spaniards, made use of a kind of *bronze metal*; found native in the country, which is an alloy of copper, zinc, and antimony, called *campanil* by the Spaniards. From this they formed their cutting instruments.—(*Mier's Trav.*, vol. II., p. 464.)

comes cylindrical. This part is hollow, for the reception of the handle. The metal is not hardened, and is now covered with a green oxyde. The length of the weapon is seventeen inches, and the diameter, at the larger end, one inch and one-tenth.

Figure 64 is a full-size engraving of one of the arrow-points discovered with a skeleton near Fall River, Massachusetts, in the year 1831. With this skeleton were found a corroded plate of brass, supposed to have constituted a breastplate, and a number of rude tubes of the same metal, composing a sort of belt or cincture. The arrow points are two inches in length, and one and one-third inches broad at the base. This skeleton attracted a good deal of attention at the time, and was supposed to lend some sanction to the then popular theory of the early discovery and settlement of the coast of New England by the Northmen. An analysis of the compound metal of which the relics were composed, was made by Berzelius, under the direction of the Royal Society of Antiquaries of Denmark. The result of the analysis was published by that learned body, in the following comparative table:



FIG. 63.

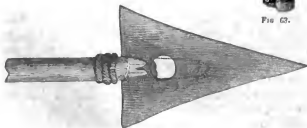


FIG. 64.

	Copper.	Zinc.	Tin.	Lead.	Iron.
Brass from Fall River, . . .	70.29	28.03	0.91	0.74	0.03
Old Danish,	67.13	20.39	9.24	3.39	0.11
Modern Brass,	70.16	27.45	0.79	0.20	—

It will be seen by the table, that the metallic relics found at Fall River bear in their composition a suspicious resemblance to modern brass. They certainly differ widely, in this respect, from any of the alloys of copper found elsewhere on the continent. Without alluding to the rudeness of the workmanship exhibited by the Fall River relics—a rudeness entirely inconsistent with that stage of advancement indicated by a knowledge of smelting and alloying the metals—the fact that the skeleton accompanying them was found buried, after the Indian mode, in a sitting posture, and enveloped in bark, places in a very strong light the probability that the burial was made subsequent to the first settlement of New England, in 1625, and that the relics were of native manufacture, from sheets or plates of brass obtained from the early colonists. This probability is further sustained, by the circumstance that a portion of the wood attached to the arrows was still preserved, as was also a large proportion of the bark envelope of the skeleton, at the time of its discovery; which could hardly be the case, if its interment had been made as early as the tenth century, which is the period assigned to the Scandinavian visits. It cannot be claimed that the preservative properties of the salts of the copper could have more than a very local application or influence.

And while upon this point, it may be mentioned that Wood, in his "New England Prospect," published in 1634, (p. 90,) distinctly states that the Indians obtained brass of the English for their ornaments and arrow-heads, the last of which, he adds, "*they cut in the shape of a heart and triangle, and fastened in a slender piece of wood, six or eight inches long,*" in a manner, according to the description, precisely similar to that observed in the articles found with the Fall River skeleton. If any

further evidence were needed to establish the opinions already advanced, it might be found in the fact that, a few years ago, in the town of Medford, near Boston, in Massachusetts, a skeleton was exhumed, accompanying which were found some flint arrow-heads, and some brass arrow-points, identical with those discovered at Fall River, together with a *knife of the English manufacture* of two hundred years ago. Fig. 65 is a full-sized



FIG. 65.

engraving of the arrow-point in question, which is now in the possession of the author.

It has already been suggested that the shore of Lake Superior is the probable locality whence the copper used by the aborigines of, at least, the Eastern and Middle States was obtained. This suggestion is rendered more than probable by the fact that abundant traces of aboriginal mining have been discovered there in the course of recent explorations. Some of the more productive veins in the "Copper Region" seem to have been anciently worked to a considerable extent. The vein belonging to the "Minnesota Company" exhibits evidence of having been worked for a distance of two miles. The ancient operations are indicated by depressions or open cuts on the course of the vein. Upon excavating these, ample proofs of their artificial origin are discovered, consisting of broken implements of various kinds, stone axes, hammers, etc. Traces

of fire are also frequent. Some of the excavations are found to have extended to the depth of thirty feet. In the mine of the particular company above named, covered by fifteen feet of accumulated soil, and beneath trees not less than four hundred years old, was found a mass of pure copper, weighing 11,537 lbs., from which every particle of the rock had been removed. It had been supported by *skids*, and was surrounded by traces of the fire which had probably been used to disengage the rock. Here, too, were found various rude implements of copper.

At the Copper Falls and Eagle River, as at the Vulcan and other mines, the ancient shafts are frequently discovered. Professor W. W. Mather, the eminent geologist, in a private letter, referring to the two mines first named, says: "On a hill, south of the Copper Falls Mine, is an excavation, several feet in depth and several rods in length, extending along the course of the river. Fragments of rock, etc., thrown out of the excavation, are piled up along its sides, the whole covered with soil, and overgrown with bushes and trees. On removing the accumulations from the excavation, stone axes of large size, made of green-stone, and shaped to receive *withe* handles, are found. Some large round green-stone masses, that had apparently been used for sledges, were also found. They had round holes bored in them to the depth of several inches, which seemed to have been designed for wooden plugs, to which *withe* handles might be attached, so that several men could swing them with sufficient force to break the rock and the projecting masses of copper. Some of them were broken, and some of the projecting ends of rock exhibited marks of having been battered in the manner here suggested."

The great Ontonagon mass of virgin copper, now deposited at Washington, when found, exhibited marks of having had considerable portions cut from it: and the ground around it was strewn with fragments of stone axes, which had been broken in endeavors to detach portions of the mass. It is not

impossible that this mass was one of those which had been brought to the surface by the ancient miners.*

The questions naturally arise, By whom were these ancient mining operations carried on? and to what era may they be referred? Without noticing the improbable suggestion, that the various excavations which have been discovered are due to the French, (who, it is well known, were early acquainted with the mineral riches of the Northwest,) we may find a satisfactory answer to the first of these questions, if not to the last, in the character of the deposits which recent explorations have disclosed from the mounds of the West. Among the multitude of relics of art found buried upon the ancient altars, or beside the bones of the dead, articles of copper are of common occurrence. It is sometimes found in native masses, but generally worked into articles of use or ornament. I have taken from the mounds axes, well wrought from single pieces, weighing

* Since the above was written, the subjoined additional facts have been published in the Lake Superior Journal newspaper, of the date of September 25, 1850:

"We have been shown by Charles Whittlesey, Esq., of the Ontonagon Mine, a copper arrow-head, and a piece of human skull and other bones, which have lately been found in the ancient Indian excavations on the Ontonagon River. The arrow-head is now about two inches in length, and seems to have had originally a socket, though but part of it remains. Several chisels, or instruments resembling chisels, having sockets like the common carpenter's chisel, and small gads or wedges, have also been found at the Minnesota Mine.

"But the greatest curiosity we have seen in the way of these articles is a stick of oak timber lately taken out of one of the ancient 'pits,' or shafts, at the Minnesota Mine, twenty-seven feet below the surface. It is a small tree, about ten feet in length, and eight or ten inches in diameter, having short limbs two feet apart, and at nearly right angles with one another; and on this account, and from its standing nearly upright, it is supposed to have been used as a ladder by the ancient miners. In this shaft and around and over this stick, were rocks and earth, and large trees were growing over it. Many centuries must have elapsed since that ancient ladder was placed there.

upwards of two pounds each. They are symmetrical, corresponding very nearly in shape with the Mexican and Peruvian axes. Some are double-bladed, others *gouge-shaped*, and evidently designed to be used as adzes. Besides these, chisels, graving tools, and a great variety of ornaments, bracelets, gorgets, beads, etc., etc., composed of this metal, have been discovered. Some of the ornaments are covered with silver, beaten to great thinness, and so closely *wrapped around* the copper that many persons have supposed that the ancient people understood the difficult art of plating.

Some years ago, a mass of native copper, weighing upwards of twenty pounds, was found upon the banks of the Scioto River, near Chillicothe, in Ohio. Large portions had evidently been cut from it. The discovery of these native masses, not to mention the amount of the manufactured copper, implying a large original supply, points pretty certainly to the shores of Lake Superior as the locality whence the metal was obtained. There are other circumstances, still more conclusive, and which, taken in connection with the traces of ancient mining in the mineral region, leave no room to doubt that the race of the mounds obtained their supplies of copper from that direction. It is well known that while some of the Lake Superior copper is almost perfectly pure, a part is alloyed with silver in various proportions, and some is found having crystals of silver attached to it—a peculiar *mechanico-chemical combination*, known to exist nowhere except in this region. This characteristic combination has been observed in some of the specimens, both worked and unworked, found in the mounds, and enables us to identify fully their primitive locality. The great industry and skill which the mound-builders displayed in the numerous and often gigantic monuments which they have left us at the West, warrant us in ascribing the ancient excavations, etc., in the mineral region to them. The Indian hunter is proverbially averse to labor; and we have no instance of the Indians undertaking works of this extent. Still, it cannot be doubted that

they also obtained copper from this region. Indeed, we have direct evidence of the fact; but it is probable that they procured it only in small quantities, when it was found exposed at the surface, or on the banks of streams. Alexander Henry, who penetrated to Lake Superior at the period of the second French war, assures us that the Indians obtained copper here, which they "made into bracerlots, spoons," etc.—(*Travels*, p. 195.) As we have seen, the early explorers on the coasts of New England, New York, Virginia, the Carolinas, and Florida, among whom we may mention Hudson, Verrazano, Raleigh, Heriot, Ribaudé, De Soto, all concur in saying that the Indians had copper in small quantities among them, which they worked into pipes and ornaments. De Soto found copper hatchets among some of the tribes along the Gulf, which they professed to have obtained from "a province called *Chisca*, far toward the North."

All the copper found in the mounds appears to have been worked in a cold state; and although the axes and other instruments appear to be harder than the copper of commerce, they have been found, upon analysis, to be destitute of alloy. The superior hardness which they possess over the unworked metal, is doubtless due to the *hammering* to which they have been subjected. Some of the sculptures in porphyry, and other hard stones found in the mounds, exhibit traces of having been *cut*; but as they now turn the edge of the best tempered knife, we are at a loss to conjecture how they were so elaborately and delicately worked. The lack of cutting implements, among most rude people, is partially met by various contrivances, the most common of which is attrition, or rubbing or grinding on hard stones. It was thus the stone axes, etc., of the early Indians were slowly and laboriously brought into shape. It however needs but a single glance at the mound sculptures to convince the observer that such rude means are wholly inadequate to the production of works possessing so much delicacy of execution.

The Mexicans and Peruvians were wholly unacquainted with the use of iron; and their carvings, etc., were all wrought with copper tools. They, however, contrived to harden them with an alloy of from three to seven per cent. of tin. I have some of their implements in my possession, which answer a very good cutting purpose. It nevertheless seems incomprehensible how their extensive works in granite, porphyry, and other obstinate materials, could be carried on with such aids. The Egyptians, although not ignorant of iron, were compelled, by a variety of circumstances, to use copper tools, and with these most of their gigantic labors were effected. They must of necessity have had some means of hardening the metals; yet it is a singular fact, that with the exception of a few bronze weapons of probably a comparatively late date, the chisels and other implements found in the monuments and at the quarries are *pure copper*.

USE OF SILVER BY THE AMERICAN ABORIGINES.—Granville, as we have seen in the quotation from his voyage on page 177, speaks of finding pieces of silver among the Virginia Indians, "grossly beaten," and used for purposes of ornament. Having shown that the copper found among the Indian tribes of the north was probably obtained from the native deposits around Lake Superior, we have little difficulty in accounting for the presence among them of small quantities of silver, derived from the same locality, where it also exists in a native form. That the silver in use among the mound-builders was principally if not wholly obtained there, seems incontestible. In no instance does it appear to have been smelted.

A variety of silver ornaments were discovered some years ago in one of the mounds at Marietta, Ohio, under very singular circumstances, and in a remarkable connection. The circumstances have been detailed by the accurate pen of Dr. S. P. HILDRETH, in a communication to the President of the American Antiquarian Society, dated "Marietta, Nov. 3, 1819."

"In removing the earth composing an ancient mound in the

streets of Marietta, on the margin of the plain, near the fortifications, several curious articles were discovered. They appear to have been buried with the body of the person to whose memory the mound was erected.

"Lying immediately over, or on the forehead of the body, were found three large circular bosses, or ornaments for a sword-belt or a buckler: they are composed of copper overlaid with a thick plate of silver. The fronts are slightly convex, with a depression like a cup in the centre, and measure two inches and a quarter across the face of each. On the back side, opposite the depressed portion, is a copper rivet or nail, around which are two separate plates, by which they were fastened to the leather. Two small pieces of the leather were found lying between the plates of one of these bosses; they resemble the skin of a mummy, and seem to have been preserved by the salts of copper. The copper plates are nearly reduced to an oxide, or rust. The silver looks quite black, but is not much corroded, and in rubbing is quite brilliant. Two of these are yet entire; the third one is so much wasted that it dropped in pieces in removing it from the earth. Around the rivets of one of them is a small quantity of flax or hemp, in a tolerable state of preservation. Near the side of the body was found a plate of silver, which appears to have been the upper part of a sword-scabard; it is six inches in length and two inches in breadth, and weighs one ounce. It has no ornaments or figures, but has three longitudinal ridges, which probably corresponded with the edges or ridges of the sword; it seems to have been fastened to the scabbard by three or four rivets, the holes of which remain in the silver.

"Two or three broken pieces of a copper tube were also found *filled with iron rust*. These pieces, from their appearance, composed the lower end of the scabbard, near the point of the sword. No signs of the sword itself were discovered, except the appearance of rust above mentioned. Near the feet was found a piece of copper weighing three ounces [now in the Mus-

um of the Antiquarian Society of Worcester]. From its shape it appears to have been used as a *plumb*, or for an ornament, as near one of the ends is a circular crease or groove, for tying a thread: it is round, two inches and a half in length, one inch in diameter at the centre, and half an inch at each end. It is composed of small pieces of native copper pounded together; and in the cracks between the pieces are stuck several pieces of silver, one nearly the size of a half-dime. A piece of red ochre or paint, and a piece of iron ore [*hematite*] which had the appearance of having been partially vitrified [*polished?*], were also found.

"The body of the person here buried was laid upon the surface of the ground, with his face upwards, and his feet pointing to the south-west. From the appearance of several pieces of charcoal and bits of partially burned fossil coal, and the black color of the earth, it would seem that the funeral obsequies had been celebrated by fire; and while the ashes were yet hot and smoking, a circle of these flat stones had been laid around and over the body. The circular covering was about eight feet in diameter; and the stones yet look black, as if stained by fire and smoke. This circle of stones seems to have been the nucleus over which the mound was formed, as immediately over them is heaped the common earth of the adjacent plain. At the time of opening it, the height was 6 feet, and diameter between 30 and 40. It has every appearance of being as old as any in the neighborhood, and was, at the first settlement of Marietta, covered with large trees. It seems to have been made for this single personage, as the remains of one skeleton only were discovered. The bones were much decayed, and many of them crumbled to dust on exposure to the air."

Engravings of the silver-plated discs and also of the embossed silver plate, supposed by Dr. Hildreth to have been a sword ornament, are herewith presented. These articles have been critically examined, and it is beyond doubt that the copper

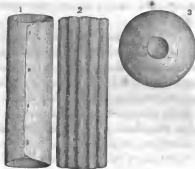


FIG. 66.

"bosses" are absolutely *plated*, not simply overlaid, *with silver*. Between the copper and the silver exists a connection, such as, it seems to me, could only be produced by heat; and if it is admitted that these are genuine remains of the mound-builders, it must, at the same time, be admitted that they possessed the difficult art of plating one metal upon another. There is but one alternative, viz, that they had occasional or constant intercourse with a people advanced in the arts, from whom these articles were obtained. Again, if Dr. Hildreth is not mistaken, *oxydized iron*, or steel, was also discovered in connection with the above remains; from which also follows, as a necessity upon the previous assumption, the extraordinary conclusion that the mound-builders were acquainted with the use of *iron*—the conclusion being, of course, subject to the improbable alternative already mentioned.

Leading, therefore, as they do, to such extraordinary conclusions, it is of the utmost importance that every fact and circumstance connected with these remains should be narrowly examined. If there is a reasonable way of accounting for their presence, under the circumstances above described, without involving us in these conclusions, unsustained as they are by collateral facts, we are justified upon every recognized rule of

evidence in adopting it as the nearest approximation to the truth.

The existing tribes of Indians, it has been demonstrated, recently and remotely, often buried in the mounds, placing the arms and ornaments, in short, whatever was valued by the possessor while living, in the grave with him at his death. It has been shown that in some instances they opened the mounds to the depth of six or seven feet, and buried at or below their bases.—(*Ancient Monuments of the Mississippi Valley*, pp. 146, 147, 149.) It has been shown, also, that partial burial by fire was occasionally practised by them, or by races succeeding the builders of the mounds. That it was a common custom among the Indians to cover their dead with stones, is also well known. The occurrence of these remains in the position above described, does not, therefore, necessarily establish that they belonged to the race of the mounds.

The French as early as in the seventeenth century, had visited the mouth of the Muskingum, as is shown by the lead tablet which they left there in token of having taken possession of the country in behalf of their nation. A notice of this plate, from the pen of Governor Clinton, is published in the second volume of the *Archæologia Americana*. Previous to this date, a very general intercourse had sprung up between the Europeans on the Atlantic coast, the St. Lawrence and the Lakes, and the Indians to the westward of the Alleghanies, in the valley of the Ohio and its tributaries. Nothing is, therefore, more likely than that the arms and the general martial equipments of the European adventurers were occasionally obtained by the Indians, either as presents for purposes of conciliation, by purchase, or from the bodies of the slain in their frequent encounters with the whites. By whatever means they came into their hands, it is certain they would be highly prized by the possessor, and deposited with him at his death.

The discs, described in the extract, and which, it should be

remarked, are very different in style and workmanship from the rude articles elsewhere obtained from the mounds, are almost identical in shape with the plated ornaments which we observe upon belts and military accoutrements of the present day. The conjectures of Dr. Hildreth respecting both these and the embossed silver plate are probably not far from correct, and are measurably sustained by the oxyde of iron found with them. It seems, however, somewhat remarkable that no more distinct traces of the sword blade, if such there was, accompanying these relics, were observed; if, as it is announced, they were deposited by the Indians, after the commencement of European intercourse.

Any conclusion we may make, respecting these relics, hypothetically or otherwise, is beset with difficulties, and all that is claimed for the hypothesis here indicated is, that it is less unreasonable than any other. If the circumstances under which the relics were found do not sustain, they certainly do not necessarily invalidate it. It is, moreover, directly supported by the circumstance that other remains of analogous character and of undoubted European origin have been discovered in mounds and elsewhere, in the same vicinity. Among these may be mentioned a silver-plated frontlet of a military cap, silver cups, gilded on the interior, etc.



FIG. 67.

Among the ornaments taken from mound No. 21, in "Monnd City"—(*Ancient Monuments of the Mississippi Valley, Plate XIX.*) were several star-shaped ornaments, of one of which an

engraving is given on the preceding page, Fig. 67. It seems to have been made of shells, over which thin slips of copper, and afterward slips of silver were closely wrapped, so as to resemble plating.



FIG. 68. *Copper Beads from the Mounds.*

SUPPLEMENT,
ON
THE ANCIENT MONUMENTS
OF THE
MISSISSIPPI VALLEY.

GENERAL OBSERVATIONS; INCLOSURES FOR DEFENCE; SACRED INCLOSURES; MOUNDS OF SEPULTURE; OF SACRIFICES, ETC., ETC.; IMPLEMENTS; ORNAMENTS; SCULPTURES, ETC., ETC.

VARIOUS references have been made, in the preceding pages, to the Ancient Monuments, and the great system of Earthworks of the Mississippi valley, of which it has hitherto been supposed the aboriginal monuments of Western New York constituted a part. It will not, therefore, be uninteresting, nor inappropriate, to present here a brief outline of the character of the former remains, with the single observation that those who may desire further information respecting them will find it in the first volume of the "Smithsonian Contribution to Knowledge," entitled "Ancient Monuments of the Mississippi Valley."

These monuments consist, for the most part, of elevations and embankments of earth and stone, erected with great labor and manifest design. In connection with these, more or less intimate, are found various minor relics of art, consisting of ornaments and implements of many kinds, some of them composed of metal, but most of stone. They spread over a vast extent of country. They are found on the Alleghany, in the western part of the State of Pennsylvania, on the east; and extend thence westwardly along the southern shore of Lake

Erie, and through Michigan and Wisconsin to Iowa and the Nebraska territory, on the west.* We have no record of their occurrence above the lakes, nor higher than the falls of the Mississippi. Carver mentions some on the shores of Lake Pepin; and Lewis and Clarke saw them on the Missouri river, 1000 miles above its junction with the Mississippi. They are found all over the intermediate country, and along the valley of the Mississippi to the Gulf from Texas to Florida, and extend, in diminished numbers, into South Carolina. They occur in great numbers in Ohio, Indiana, Illinois, Wisconsin, Missouri, Arkansas, Kentucky, Tennessee, Louisiana, Mississippi, Alabama, Georgia, Florida, and Texas. They are found in less numbers, in the western portions of Pennsylvania, and Virginia; as well as in Michigan, Iowa, and in North and South Carolina. In short, they occupy the entire basin of the Mississippi and its tributaries, as also the fertile plains along the Gulf.

It is not to be understood that these remains are dispersed equally over the area here defined. They are mainly confined to the valleys of the streams, occupying the level, fertile terraces, and seldom occurring very far back from them.

* It is a fact not generally known, that there is an abundance of tumuli or mounds in the Territory of Oregon. We are not informed, however, that there are any inclosures or other works of like character with those usually accompanying the mounds of the Mississippi valley, nor whether the mounds of Oregon are generally disseminated over that territory. The only reference we have to them is contained in a paragraph in the Narrative of the United States Exploring Expedition:

"We soon reached the Bute Prairies, which are extensive and covered with tumuli or small mounds, at regular distances asunder. As far as I can learn, there is no tradition among the natives concerning them. They are conical mounds, thirty feet in diameter, about six or seven feet above the level, and *many thousands in number*. Being anxious to ascertain if they contained any relics, I subsequently visited these prairies, and opened three of the mounds, but found nothing in them but a pavement of round stones."—*U. S. E. E.*, vol. iv., p. 313.

Their number is well calculated to excite surprise, and has been adduced in support of the hypothesis—which has not been without its advocates—that they are most, if not all of them, 'natural formations, "the results of diluvial action," modified perhaps, in a few instances, but never erected by man. Of course no such hypothesis was ever advanced by any individual who had enjoyed the opportunity of examining these remains for himself.

Some estimate may be formed of their great abundance, in certain portions of the country, by an inspection of Map No. 1, in the first volume of the "Smithsonian Contributions to Knowledge," which exhibits a section of twelve miles of the Scioto valley. It will be observed that not less than *ten* large groups of earth-works occur within the space designated, besides which there is a large number of mounds and lesser monuments. Twenty-four of these mounds are found within a single inclosure three miles above the city of Chillicothe. Two large works in the vicinity of this, have each not far from two miles of embankment, and inclose little less than one hundred acres. Nearly one hundred inclosures and five hundred mounds are found in Ross county, Ohio, alone; and the ancient works of the State may be safely estimated at ten thousand mounds, and one thousand or fifteen hundred inclosures, of all sizes. Many of them are, of course, small, but cannot be omitted in an enumeration.

Nor is their magnitude less a matter of surprise than their numbers. Lines of embankment, varying in height from five to fifteen feet, and inclosing areas of from one to fifty acres, are common; while inclosures of one hundred or two hundred acres are far from infrequent. Occasional works are found, embracing not less than five or six hundred acres.* The magnitude of the area inclosed is not, however, always an index

* Lewis and Clarke describe one on the Missouri river which they estimated to contain six hundred acres.

of the amount of the labor expended in the construction of these works, or of the length of the embankment raised. A fortified hill, in Highland county, Ohio, (A. M. Plate V.) has one mile and five-eighths of heavy embankment; yet it incloses an area of only about *forty acres*. A similar work, on the Little Miami river, in Warren county, Ohio, (A. M. Plate VII.) has upwards of four miles of embankment, yet incloses but little upwards of one hundred acres. The group of works at the mouth of the Scioto river at Portsmouth has an aggregate of at least twenty miles of embankment; yet the amount of land embraced within the walls does not exceed two hundred acres.

The mounds are of every conceivable dimension, from those of but a few feet in height and a few yards in diameter, to those which, like the celebrated one at the mouth of Grave Creek, in Virginia, (A. M. Fig. 56,) measure one thousand feet in circumference by seventy feet in height; or, like the truncated pyramid at Cahokia, in Illinois, (A. M. Fig. 60,) rise to the altitude of nearly one hundred feet, and measure half a mile in circumference at the base, with a level summit of several acres area. Their usual dimensions are, however, considerably less than in the examples here given. The larger number range from six to thirty feet in height, by forty to one hundred feet base.

These constructions are composed of earth or stone, taken up on the spot, or brought from localities more or less remote; though a combination of these materials, in the same work, is by no means rare. In the absence of ditches interior or exterior to the embankments, *pits* or dug holes, from which the earth for their construction was taken, are generally visible near by. These are sometimes very broad and deep, and occasionally quite symmetrical in shape. In the vicinity of large mounds, such excavations are also common.*

* These are the "wells" of Mr. Atwater and other writers on American Antiquities.

A large, perhaps the larger, portion of these works are regular in outline, the square and the circle predominating. Some are parallelograms, some ellipses, others polygons, regular and irregular. The regular works are almost invariably erected on level river-terraces, great care having evidently been taken to select those least broken. The irregular works are those which partake most of the character of defences, and are usually made to conform to the nature of the ground upon which they are situated—running along the brows of hills, or cutting off the approaches to strong natural positions. The square and the circle often occur in combination, frequently communicating with each other or with irregular works, directly or by avenues consisting of parallel lines of embankment. Detached parallels are frequent. The mounds are usually simple cones in form, but they are sometimes truncated, and occasionally terraced, with graded or winding ascents to their summits. Some are elliptical, others pyriform, and others squares or parallelograms, with flanking terraces. Besides these are others, most common in the extreme north-west, which assume the forms of animals and reptiles. Another variety of remains are the causeways or “roads,” and the graded descents to rivers and streams, or from one terrace to another.

As already remarked, these remains occur mainly in the valleys of the Western rivers and streams. The alluvial terraces, or “river bottoms,” as they are popularly termed, were the favorite sites of the builders. The principal monuments are found where these “bottoms” are most extended, and where the soil is most fertile and easy of cultivation. At the junction of streams, where the valleys are usually broadest and most favorable for their erection, some of the largest and most singular remains are found. The works at Marietta, at the junction of the Muskingum with the Ohio; at the mouth of Grave Creek; at Portsmouth, the mouth of the Scioto; and at the mouth of the Great Miami, are instances in point. Occasional works are found on the hill-tops, overlooking the valleys,

or at a little distance from them; but these are manifestly, in most instances, works of defence or last resort, or in some way connected with warlike purposes. And it is worthy of remark, that the sites selected for settlements, towns, and cities, by the invading Europeans, are often those which were the especial favorites of the mound-builders, and the seats of their heaviest population. Marietta, Newark, Portsmouth, Chillicothe, Circleville, and Cincinnati, in Ohio; Frankfort in Kentucky; and St. Louis in Missouri, may be mentioned in confirmation of the remark. The centres of population are now where they were at the period when the mysterious race of the mounds flourished.*

The monuments throughout the entire Mississippi valley possess certain grand points of resemblance, going to establish a common origin. Whether they were contemporaneous in their erection, or constructed by a people slowly migrating from one portion of the valley to the other, under the pressure of hostile neighbors or the inducements of a more genial climate, are questions open to inquiry, and which proper investigations may satisfactorily answer. It is quite certain, however, and this fact is of importance in the consideration of these questions, that the mounds increase in magnitude and regularity, if not in numbers, as we go down the Mississippi toward the Gulf. And although between the monuments of the North and the South there is a marked contrast, in many respects; yet it would be impossible to tell, so gradually do they merge into each other, where one series terminates and the other begins. It is not impossible that future investigations may show an imperceptible transition from the more regular earth-structures

* "The most dense ancient population existed in precisely the places where the most crowded future population will exist in ages to come. The appearance of a series of mounds generally indicates the contiguity of rich and level lands, easy communication, fish, game, and the most favorable adjacent positions."—*Flint*.

tures of the lower Mississippi, to the symmetrical and imposing stone *teocalli* of Mexico.

The remains of which we are speaking may be divided into two grand classes, viz., INCLOSURES, bounded by parapets, circumvallations or walls, and simple *Tumuli* or MOUNDS.* They constitute together a single system of works; but, for purposes which will satisfactorily appear, it is preferred to classify them as above. These grand classes resolve themselves into other subordinate divisions; *Inclosures for Defence, Sacred and Miscellaneous Inclosures; Mounds of Sacrifice, Temple Mounds, Mounds of Sepulture, etc.*

INCLOSURES.

The Inclosures, or, as they are familiarly known throughout the West, "Forts," constitute a very important and interesting class of remains. Their dimensions, and the popular opinion as to their purposes, attract to them more particularly the attention of observers. As a consequence, most that has been written upon our antiquities relates to them. Quite a number have been surveyed and described by different individuals, at different times; but no systematic examination of a sufficient number to justify any general conclusion as to their origin and purposes has hitherto been made. Accordingly we have had presented as many different conclusions as there have been individual explorers; one maintaining that all the inclosures were intended for defence, while another persists that none could possibly have been designed for any such purpose. A sufficiently extended investigation would have shown, however, that while certain works possess features demonstrating incontestably a warlike origin, others were connected with the superstitions of the builders, or designed for purposes not readily apparent in our present state of knowledge concerning them.

* I use the term *mound*, for obvious reasons, in a technical sense, as synonymous with *tumulus* or *barrow*, and as distinct from embankment, rampart, etc.

It has already been remarked that the square and the circle, separate or in combination, were favorite figures with the mound-builders; and a large proportion of their works in the Scioto valley and in Ohio are of these forms. Most of the circular works are small, varying from 250 to 300 feet in diameter, while others are a mile or more in circuit. Some stand isolated, but most in connection with one or more mounds, of greater or less dimensions, or in connection with other more complicated works. Wherever the circles occur, if there be a fosse or ditch, it is almost invariably *interior* to the parapet. Instances are frequent where no ditch is discernible, and where it is evident that the earth composing the parapet was brought from a distance or taken up evenly from the surface. In the square or irregular works, if there be a fosse at all, it is *exterior* to the embankment, except in the case of fortified hills, when the earth, for the best of reasons, is usually thrown from the interior. These facts are not without their importance in determining the character and purpose of these remains. Another fact bearing directly upon the degree of knowledge possessed by the builders is, that many if not most of the circular works are *perfect circles*, and that many of the rectangular works are *accurate squares*. This fact has been demonstrated, in numerous instances, by careful measurements, and has been remarked in cases where the works embrace an area of many acres, and where the embankments or circumvallations are a mile or upwards in extent.

WORKS OF DEFENCE.

Those works, which are incontestably defensive, usually occupy strong natural positions. To understand fully their character and capacity for the purpose assigned to them, it is necessary to notice briefly the predominant features of the country in which they occur.

The valley of the Mississippi, from the base of the Alleghanies to the ranges of the Rocky Mountains, is a vast sedimentary

basin, and owes its general aspect to the powerful action of water. Its rivers have worn their valleys deep in a vast original plain, leaving in their gradual subsidence broad terraces, marking the different eras of their history. The edges of the table lands, bordering on the valleys, are out by a thousand ravines, presenting bluff headlands and high hills with level summits, sometimes connected by narrow isthmuses with the original table, and sometimes entirely detached. The sides of these elevations are always steep and difficult of ascent, in some cases precipitous and absolutely inaccessible. The natural strength of such positions, and their susceptibility of defence, would certainly suggest them as the citadels of a rude people, having hostile neighbors or pressed by foreign invaders. Accordingly, we are not surprised at often finding these heights occupied by strong and complicated works, the design of which is indicated no less by their position than by their peculiarities of construction. In such cases it is always to be observed that great care has been exercised in their selection, and that they possess peculiar strength and adaptation for the purposes to which they were applied. While rugged and steep on most sides, they have one or more points of comparatively easy approach, in the protection of which the utmost skill of the builders has been expended. They are guarded by double overlapping walls, or a series of them, having sometimes an accompanying mound, designed perhaps as a "look-out," and corresponding to the *barbican* in the British system of defence, of the middle ages. The usual defence is a simple parapet thrown up along and a little below the brow of the hill, varying in height and solidity as the declivity is more or less steep and difficult of access.

Other defensive works occupy the peninsulas formed by the streams, or cut off the bluff points formed by their junction with each other. In such cases a fosse and wall are carried across the isthmus, or diagonally from the bank of one stream to that of the other. In certain instances the wall is double,

and extends along the bank of the stream for some distance inwardly, as if designed to prevent an enemy from turning the flank of the defence.

To understand clearly the nature of the works last mentioned, it should be remembered that the banks of the Western rivers are always steep, and, where these works are located, invariably high; the banks of the various terraces are also steep, ranging from ten to thirty and more feet in height. The rivers are constantly shifting their channels, and frequently cut their way through all the intermediate up to the earliest formed or highest terrace, presenting bold banks, inaccessible steep, and from fifty to one hundred feet high. At such points, from which the river has in some instances receded to the distance of half a mile or more, works of this description are oftenest found.

And it is a fact of much importance and worthy of special note, that within the scope of a pretty extended observation, no work of any kind has been found occupying the latest formed terrace.* This terrace alone, except at periods of extraordinary freshets, is subject to overflow. The formation of each terrace constitutes a sort of semi-geological era in the history of the valley; and the fact that none of the works occur upon the lowest or latest formed of these, while they are found indiscriminately upon all the others, bears directly upon the question of their antiquity.

Many of these structures are of vast dimensions; indeed, the works of greatest magnitude are those which are most clearly of defensive origin. A fortified hill in the vicinity of Chilli-cothe embraces one hundred and forty acres within its walls; and another military work—most probably a fortified village—

* This observation is confirmed by all who have given attention to the subject in the Ohio and Upper Mississippi valleys. Along the Gulf and at points on the Lower Mississippi, where the entire country is low and subject to inundation, some of the ancient monuments are invaded by the water.

on the banks of the North Fork of Paint Creek, five miles from Chillicothe, has an area of one hundred and twenty-seven acres. To appreciate fully the judgment displayed in the choice of position, and the skill exhibited in defence, a minute examination of a series of these structures is necessary. No one can rise from such an examination without being convinced that the race by whom they were erected possessed no inconsiderable knowledge of the science of defence—a degree of knowledge much superior to that known to have been possessed by the North American tribes previous to the discovery by Columbus, or indeed, subsequent to that event. Their number and magnitude must also impress the inquirer with enlarged notions of the power of the people commanding the means for their construction, and whose numbers required such extensive works for their protection. It is not impossible that they were, to a certain extent, designed to embrace cultivated fields, so as to furnish the means of sustenance to their defenders in event of a protracted siege. There is no other foundation, however, for this suggestion than that furnished by the size of some of these defensive inclosures. The population finding shelter within their walls must have been exceedingly large, if their dimensions may be taken as the basis of a calculation.

The vast amount of labor necessary to the erection of most of these works precludes the notion that they were hastily constructed to check a single or unexpected invasion. On the contrary there seems to have existed a *system of defences*, extending from the mouth of the Alleghany diagonally across the country, through central Ohio to the Wabash. Within this range, those works which are regarded as defensive are largest and most numerous. If an inference may be drawn from this fact, it is that the pressure of hostilities was from the north-east; or that, if the tide of migration flowed from the south, it received its final check upon this line. On the other hypothesis, that in this region originated a semi-civilization which subsequently went southward, constantly developing

itself in its progress, until it attained its height in Mexico, we may suppose from this direction came the hostile savage hordes, before whose incessant attacks the less warlike mound-builders gradually receded, or beneath whose exterminating cruelty they entirely disappeared—leaving these monuments alone to attest their existence, and the extraordinary skill with which they defended their altars and their homes. Upon either assumption it is clear that the contest was a protracted one, and that the race of the mounds were for a long period constantly exposed to attack. This conclusion finds its support in the fact that, in the vicinity of those localities, where, from the amount of remains, it appears the ancient population was most dense, we almost invariably find one or more works of a defensive character, furnishing ready places of resort in times of danger. We may suppose that a state of things existed somewhat analogous to that which attended the advance of our pioneer population, when every settlement had its little fort, to which the settlers flocked in case of alarm or attack.

It may be suggested that there existed among the mound-builders a state of society something like that which prevailed among the Indians; that each tribe had its separate seat, maintaining an almost constant warfare against its neighbors, and, as a consequence, possessing its own "castle," as a place of final resort when invaded by a powerful foe. Apart from the fact, however, that the Indians were hunters, averse to labor, and not known to have constructed any works approaching, in skilfulness of design or in magnitude, those under notice, there is almost positive evidence that the mound-builders were an agricultural people, considerably advanced in the arts, and possessing great uniformity, throughout the whole territory which they occupied, in manners, habits, and religion,—a uniformity sufficiently marked to identify them as a single people, having a common origin, common modes of life, and, as a consequence, common sympathies, if not a common and consolidated government.

SACRED WORKS

The structure, no less than the form and position, of a large number of the earth-works of the West, and more particularly of the Scioto valley, render it clear that they were erected for other than defensive purposes.* The small dimensions of most of the circles, the occurrence of the ditch interior to the embankment, and the fact that many of them are completely commanded by adjacent heights, may be mentioned as sustaining this conclusion. We must seek, therefore, in the connection in which these works are found, and in the character and contents of the mounds, if such there be, within their walls for the secret of their origin. And it may be observed, that it is here we find evidence still more satisfactory and conclusive than furnished by the small dimensions of these works, or the position of the ditch, that they were not intended for defence. Thus, when we find inclosures containing a number of mounds, all of which it is capable of demonstration were *religious* in their purposes, or in some way connected with the superstitions of the people who built them, the conclusion is irresistible that the inclosure itself was also deemed sacred, and thus set apart as "*tabooed*" or consecrated ground—especially where it is obvious, at first glance, that it possesses none of the requisites of a military work. But it is not to be concluded that those inclosures

* It seems incredible that many well-informed men, who have examined some of the small circular and elliptical works of the West, should have fallen into the palpable error of supposing them defensive in their origin. Major Long (*Second Exp.* vol. 1., p. 54) describes some petty works in the vicinity of Piqua, Ohio, consisting of a number of small circles, as of undoubted warlike origin, applying to them the terms of military technology. One of these circles, which he regards as a "*redoubt*," is 43 feet in diameter, and has its ditch *interior* to the wall! A famous defence, truly, contrasted with the fortified hills already described!

alone, which contain mounds of the description here named, were designed for sacred purposes. We have reason to believe that the religious system of the mound-builders, like that of the Mexicans, exercised among them a great, if not a controlling influence. Their government may have been, for aught we know, a government of the priesthood; one in which the priestly and civil functions were jointly exercised, and one sufficiently powerful to have secured in the Mississippi valley, as it did in Mexico, the erection of many of those vast monuments, which for ages will continue to challenge the wonder of men. There may have been certain superstitious ceremonies, having no connection with the purposes of the mounds, carried on in inclosures specially dedicated to them. There are several minor inclosures within the great defensive work already referred to, on the banks of the North Fork of Paint Creek, (A. M. Plate X.,) the purposes of which would scarcely admit of doubt, even though the sacred mounds which they embrace were wanting. It is a conclusion which every day's investigation and observation has tended to confirm, that most, perhaps all the earth-works, not manifestly defensive in their character, were in some way connected with the superstitious rites of the builders, though in what manner, it is, and perhaps ever will be, impossible satisfactorily to determine.

What dim light analogy sheds upon this point goes to sustain this conclusion. The British Islands only afford works with which any comparison can safely be instituted. The "ring forts" of the ancient Celts are nearly identical in form and structure with a large class of remains in our own country; and these are regarded by all well-informed British antiquaries as strictly religious in their origin, or connected with the rites of the ancient Druidical system. This conclusion is not entirely speculative, but rests in a great degree upon traditional and historical facts. The late Sir R. C. Hoare, author of "Ancient Wiltshire" (the most scientific as

also the most splendid antiquarian work ever issued from the British press), regarded the occurrence of the *fosse*, interior to the wall, in a portion of the British works, as precluding the supposition of a military, and establishing their religious origin.

The character of these works has already been briefly indicated. They are generally regular in their structure, and occupy the broad and level river-bottoms, seldom occurring upon the table-lands, or where the surface is undulating or broken. Their usual form is that of the square or the circle; sometimes they are slightly elliptical. Occasionally we find them isolated, but oftenest in groups. The greater number of the circles are of small size, having a nearly uniform diameter of two hundred and fifty or three hundred feet, with the ditch invariably interior to the wall. These have always a single gateway, opening oftenest toward the east, but by no means observing a fixed rule in this respect. It frequently happens that they have one or more small mounds interior to their walls, of the class denominated *sacrificial*. These small circles occasionally occur within larger works of a defensive character. Apart from these, numerous little circles, from thirty to fifty feet in diameter, are observed in the vicinity of large works, consisting of a very light embankment of earth, and destitute of a gateway or entrance. It has been suggested that these are the remains of the ancient lodges or of other buildings. The accounts which we have of the traces left of the huts of the Mandans and other Indian tribes, at their deserted villages, render this supposition not improbable. It sometimes happens that we find small circles around the bases of large mounds; these probably cannot be regarded as of the same character with that numerous class already described.

The larger circles are oftenest found in combination with rectangular works, connecting with them directly or by avenues. Some of these are of large size, embracing fifty or more acres.

They seldom have a ditch ; but whenever it occurs, it is interior to the wall. As in the case of the squares or rectangular works with which they are attached, (and which, it is believed, *never* have ditches, exterior or interior,) the walls are usually composed of earth taken up evenly from the surface, or from large pits in the neighborhood. Evident care seems in all cases to have been exercised, in procuring the material, to preserve the surface of the adjacent plain smooth, and as far as possible unbroken. This fact is in itself almost conclusive against the supposition of a defensive design, especially as we have abundant evidence that the mound-builders understood perfectly the value of the external fosse in their works of defence. The walls of these works are, for the most part, comparatively slight, varying from three to seven feet in height. Sometimes they are quite imposing ; as in the case of the great circle at Newark, Licking county, Ohio, where, at the entrance, the wall from the bottom of the ditch has a vertical height of not far from thirty feet. The square or rectangular works attending these large circles are of various dimensions. It has been observed, however, that certain groups are marked by a great uniformity of size. Five or six of these now occur to the writer, placed at long distances asunder, which are *exact* squares, each measuring one thousand and eighty feet side—a coincidence which could not possibly be accidental, and which must possess some significance. It certainly establishes the existence of some standard of measurement among the ancient people, if not the possession of some means of determining angles. The rectangular works have almost invariably gateways at the angles and midway on each side, each of which is covered by a small interior mound or elevation. In some of the larger structures the openings are more numerous. A few of this description of remains have been discovered which are octagonal. One of large size, in the vicinity of Chillicothe, has the alternate angles coincident with each other, and the sides equal.

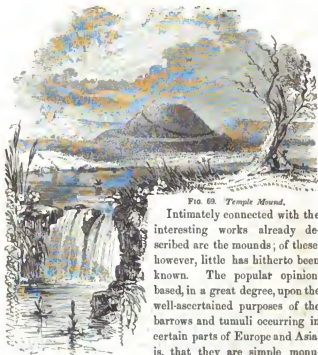
Another description of works, probably akin to those here

described, are the parallels, consisting of light embankments, seven or eight hundred feet in length and sixty or eighty apart.

Indeed, so various are these works, and so numerous their combinations, that it is impossible to convey any accurate conception of them, without entering into a minuteness of detail and an extent of illustration utterly beyond the limits of this paper. They are invested with singular interest, alike from their peculiar form and the character and contents of the mounds which they inclose. If we are right in the assumption that they are of sacred origin, and were the temples and consecrated grounds of the ancient people, we can, from their number and extent, form some estimate of the devotional fervor or superstitious zeal which induced their erection, and the predominance of the religious sentiment among their builders.

The magnitude of some of these structures is, perhaps, the strongest objection that can be urged against the position here assigned them. It is difficult to comprehend the existence of religious works, extending, with their attendant avenues, like those near Newark in Ohio, over an area of little less than *four square miles!* We can find their parallels only in the great temples of Abury and Stonehenge in England, and Carnae in Brittany, and associate them with a mysterious worship of the Sun, or an equally mysterious Sabianism. Within the mounds inclosed in many of these sacred works, we find the altars upon which glowed their sacrificial fires, and where the ancient people offered their propitiations to the strange gods of their primitive superstition. These altars also furnish us with the too unequivocal evidence that the ritual of the mound-builders, like that of the Aztecs, was disfigured by sanguinary observances, and that human sacrifices were not deemed unacceptable to the divinity of their worship. It is of course impossible in this connection to go into the details of the evidence upon this or kindred points of interest.

THE MOUNDS.

FIG. 69. *Temple Mound.*

Intimately connected with the interesting works already described are the mounds; of these, however, little has hitherto been known. The popular opinion, based, in a great degree, upon the well-ascertained purposes of the barrows and tumuli occurring in certain parts of Europe and Asia, is, that they are simple monu-

ments, marking the last resting-place of some great chief or distinguished individual, among the tribes of the builders. Some have supposed them to be the cemeteries, in which were deposited the dead of a tribe or village, for a certain period, and that the size of the mound is an indication of the number inhumed. Others, that they mark the sites of great battles, and contain the bones of the slain. On all hands the opinion has been entertained, that they were devoted to sepulture alone. This received opinion is not, however, sustained by the investigations set on foot by the writer and his associate. The con-

clusion to which their observations have led, is, that the mounds were constructed for several grand and dissimilar purposes ; or rather, that they are of different classes ;—the conditions upon which the classification is founded being four in number—namely : position, form, structure, and contents. In this classification, we distinguish—

1st. *Altar Mounds*, which occur in, or in the immediate vicinity of inclosures, which are stratified, and contain altars of burned clay or stone, and which were places of sacrifice.

2d. *Mounds of Sepulture*, which stand isolated, or in groups, more or less remote from the inclosures, which are not stratified, which contain human remains, and which were the burial-places and monuments of the dead.

3d. *Temple Mounds*, which occur most usually within, but sometimes without the walls of inclosures ; which possess great regularity of form ; which contain neither altars nor human remains ; but which were " High Places " for the performance of religious rites and ceremonies, the sites of structures, or in some way connected with the superstitions of the builders.

4th. *Anomalous Mounds*, including mounds of observation, and such as were applied to a double purpose, or of which the design and objects are not apparent. This division includes all which do not clearly fall within the preceding three classes.

These classes are broadly marked in the aggregate ; but, in some instances, they seem to run into each other. Mounds of this mixed character, as well as those which, under our present condition of knowledge respecting them, do not seem to indicate any clear purpose, have been denominated *anomalous*. Of one hundred mounds excavated, sixty were altar or sacrificial mounds, twenty sepulchral, and twenty either places of observation or *anomalous* in their character. Such, however, is not the proportion in which they occur. From the fact that the mounds of sacrifice are most interesting and most productive in relics, the largest number excavated has been of that class. In the Scioto valley the mounds are distributed between the

three classes specified, in very nearly equal proportions; the mounds of observation and the anomalous mounds constituting together about one third of the whole number.

Mounds of Sacrifice.—The general characteristics of this class of mounds are :

1st. That they occur only within, or in the immediate vicinity of inclosures or sacred places.*

2d. That they are stratified.

3d. That they contain symmetrical altars of burned clay or stone, on which are deposited various remains, which, in all cases, have been more or less subjected to the action of fire.

Of the whole number of mounds of this class which were examined by the author, *four* only were found to be exterior to the walls of inclosures, and these were but a few rods distant from the ramparts.

The fact of stratification, in these mounds, is one of great interest and importance. This feature has heretofore been remarked, but not described with proper accuracy; and has consequently proved an impediment to the recognition of the artificial origin of the mounds, by those who have never seen them. The stratification, so far as observed, is not horizontal, but always conforms to the convex outline of the mound.† Nor

* It is not assumed to say that *all* the mounds occurring within inclosures are altar or sacrificial mounds. On the contrary, some are found which, to say the least, are *anomalous*, while others were clearly the *sites of structures or temple mounds*.

† Some of the mounds, on the Lower Mississippi, are horizontally stratified, exhibiting alternate layers, from base to summit. These mounds differ in form from the conical structures here referred to, and were doubtless constructed for a different purpose. Some are represented as composed of layers of earth, two or three feet thick, each one of which is surmounted by a burned surface, which has been mistaken for a rude brick pavement. Others are composed of alternate layers of earth and human remains. Their origin is doubtless to be found in the annual bone burials of the Cherokees and other southern Indians, of which accounts are given by Bartram and other early writers. It is not

does it resemble the stratification produced by the action of water, where the layers run into each other, but is defined with the utmost distinctness, and always terminates upon reaching the level of the surrounding earth. That it is artificial will, however, need no argument to prove, after an examination of one of the mounds in which the feature occurs; for, it would be difficult to explain, by what singular combination of "igneous and aqueous" action, stratified mounds were always raised over symmetrical monuments of burned clay or of stone.

The altars, or basins, found in these mounds, are almost invariably of burned clay, though one or two of stone have been discovered. They are symmetrical, but not of uniform size and shape. Some are round, others elliptical, and others square, or parallelograms. Some are small, measuring barely two feet across, while others are fifty feet long by twelve and fifteen wide. The usual dimensions are from five to eight feet. All appear to have been modeled of fine clay, brought to the spot from a distance, and rest upon the original surface of the earth. In a few instances, a layer or small elevation of sand had been laid down, upon which the altar was formed. The elevation of the altars, nevertheless, seldom exceeds a foot or twenty inches above the adjacent level. The clay of which they are composed is usually burned hard, sometimes to the depth of ten, fifteen, and even twenty inches. This is hardly to be explained, by any degree or continuance of heat, though it is manifest that in some cases the heat was intense. On the other hand, a number of these altars have been noticed, which are very slightly burned; and such, it is a remarkable fact, are destitute of remains.

The subjoined account of a mound of this class (No. 9 of "Mound City," A. M. Plate XIX.) will give an idea of their detailed characteristics. This mound is seven feet high by fifty-

impossible that, in rare instances, natural elevations have been modified by art so as to serve some of the purposes for which mounds were erected. In such the natural stratification would be preserved.

five feet base. A shaft, five feet square, was sunk from its apex, with the following results:—

1st. Occurred a layer of coarse gravel and pebbles, which appeared to have been taken from deep pits, surrounding the inclosure, or from the bank of the river. This layer was one foot in thickness.

2d. Beneath this layer of gravel and pebbles, to the depth of two feet, the earth was homogeneous, though slightly mottled, as if taken up and deposited in small loads, from different localities. In one place appeared a deposit of dark-colored, surface loam, and by its side, or covering it, there was a mass of the clayey soil of greater depth. The outlines of these various deposits could be distinctly traced.

3d. Below this deposit of earth, occurred a thin and even layer of fine sand, a little over an inch in thickness.

4th. A deposit of earth, as above, eighteen inches in depth.

5th. Another stratum of sand, somewhat thinner than the one above mentioned.

6th. Another deposit of earth, one foot thick; beneath which was—

7th. A third stratum of sand; below which was—

8th. Still another layer of earth, a few inches in thickness; which rested on—

9th. An altar, or basin, of burned clay.

This altar was perfectly round, nine feet in diameter, and twenty inches high. The basin, or hollow, was also perfectly round, five feet in diameter, and nine inches deep. The body of the altar was burned throughout, though in a greater degree within the basin, where it was so hard as to resist the blows of a heavy hatchet, the instrument rebounding as if struck upon a rock. The basin, or hollow of the altar, was filled even full with fine dry ashes, intermixed with which were some fragments of pottery, of an excellent finish and elegant model, ornamented with tasteful carvings on the exterior. One of the vases, taken in fragments from this mound, has been very nearly restored.

Its height is six, its greatest diameter eight inches. The material is hardly distinguishable from that composing the pottery of the ancient Peruvians; and in respect of finish, it is fully equal to the best Peruvian specimens. A few convex copper discs, much resembling the bosses used upon harnesses, were also found.

Above the deposit of ashes, and covering the entire basin, was a layer of silvery or opaque mica, in sheets, overlapping each other; and, immediately over the centre of the basin, was heaped a quantity of burned human bones, probably the amount of a single skeleton, in fragments. The layer of mica and calcined bones, it should be remarked, to prevent misapprehension, were peculiar to this individual mound, and were not found in any other of the class.

At a point about two feet below the surface of the mound, a human skeleton was found. It was placed a little to the left of the centre, with the head to the east, and was so much decayed as to render it impossible to extract a single bone entire. Above the skeleton, the earth and outer layer of gravel and pebbles were broken up and intermixed. Thus while on one side of the shaft the strata were clearly marked, on the other they were confused. And, as this was the first mound of the class excavated, it was supposed, from this circumstance, that it had previously been opened by some explorer, and it had been decided to abandon it when the skeleton was discovered. Afterward the matter came to be fully understood. No relics were found with this skeleton.

It is a fact well known, that the modern Indians, though possessing no knowledge of the origin or objects of the mounds, were accustomed to regard them with some degree of veneration. It is also known, that they sometimes buried their dead in them, in accordance with the almost invariable custom which leads them to select elevated points, and the brows of hills, as their cemeteries. That their remains should be found in the mounds, is therefore a matter of no surprise.

They are never discovered at any great depth, not often more than eighteen inches or three feet below the surface. Their position varies in almost every case: most are extended at length, others have a sitting posture, while others again seem to have been rudely thrust into their shallow graves without care or arrangement. Rude implements of bone and stone, and coarse vessels of pottery, such as are known to have been in use among the Indians at the period of the earliest European intercourse, occur with some of them, particularly with those of a more ancient date; while modern implements and ornaments, in some cases of European origin, are found with the recent burials. The necessity therefore of a careful and rigid discrimination, between these deposits and those of the mound-builders, will be apparent. From the lack of such discrimination, much misapprehension and confusion have resulted. Silver crosses, gun-barrels, and French dial-plates have been found with skeletons in the mounds; yet it is not to be concluded that the mound-builders were Catholics, or used fire-arms, or understood French. Such a conclusion would, nevertheless, be quite as well warranted, as some which have been deduced from the absolute identity of certain relics, taken from the mounds, with articles known to be common among the existing tribes of Indians. The fact of remains occurring in the mounds, is in itself hardly presumptive evidence that they pertained to the builders. The conditions attending them can alone determine their true character. As a general rule, to which there are few exceptions, the only authentic and undoubted remains of the mound-builders are found directly beneath the apex of the mound, on a level with the original surface of the earth; and it may be safely assumed, that whatever deposits occur near the surface of the mounds are of a date subsequent to their erection.

In the class of mounds now under consideration we have data which will admit of no doubt, whereby to judge of the

origin, as well as the relative periods, of the various deposits found in them. If the stratification already mentioned as characterizing them, is unbroken and undisturbed, if the strata are regular and entire, it is certain that whatever occurs beneath them, was placed there at the period of the construction of the mound. And if, on the other hand, these strata are broken up, it is equally certain that the mound has been disturbed, and new deposits made, subsequent to its erection. It is in this view, that the fact of stratification is seen to be important, as well as interesting; for it will serve to fix, beyond all dispute, the origin of many singular relics, having a decisive bearing on some of the leading questions connected with American Archaeology. The thickness of the exterior layer of gravel, &c., in mounds of this class, varies with the dimensions of the mound, from eight to twenty inches. In a very few instances, the layer, which may have been designed to protect the form of the mound, and which purpose it admirably subserves, is entirely wanting. The number and relative position of the sand strata are variable; in some of the larger mounds, there are as many as six of them, in no case less than one, most usually two or three.

In one case which fell under my observation, and in another, of which I have an account from the person who discovered it, the altar was of stone. This altar was elevated two and one half feet above the original surface of the earth, and was five feet long by four broad. It was a simple elevation of earth packed hard, and was faced, on every side and on top, with slabs of stone of regular form, and nearly uniform thickness. They were laid evenly, and, as a mason would say, "with close joints;" and though none by any instrument, the edges were straight and smooth. The stone is "the Waverly sandstone," underlying the coal series, thin strata of which cap every hill. This stone breaks readily, with a rectangular fracture, and hence the regularity of the slabs is not so much a matter of surprise. This altar bore the marks of

fire, and fragments of the mound-builders' ornaments were found on and around it. What had originally been deposited there was probably removed by the modern Indians, who had opened the mound and buried one of their dead on the altar.

Mounds of this class are most fruitful in relics of the builders. On the altars have been found, though much injured and broken up by the action of fire, instruments and ornaments of *silver, copper, stone, and bone*; beads of silver, copper, *pearls*, and shell; spear and arrow heads of flint, quartz, garnet, and *obsidian*; fossil teeth of the shark; teeth of the alligator; marine shells; galena; sculptures of the human head, and of numerous animals; pottery of various kinds, and a large number of interesting articles, some of which evince great skill in art. No description of these can be given here.

MOUNDS OF SEPULCHRE.

The Mounds of Sepulchre stand apart from the inclosures, and, in their average dimensions, greatly exceed those of the first class. The celebrated mound at Grave Creek is of this class. They lack the gravel and sand strata, which characterize those already described, and are destitute of "altars." They invariably cover a skeleton (sometimes more than one, as at Grave Creek), which, at the time of its interment, was inclosed in a rude framework of timber, or enveloped in bark or coarse matting, the traces, in some instances the very *casts*, of which remain.

The subjoined account of a single mound of this class will serve to exhibit their peculiarities. It occurs on the third "bottom" or terrace of the Scioto river, six miles below the town of Chillicothe. There are no inclosures nearer than a mile; though there are three or four other mounds, of smaller size, on the same terrace, within a few hundred yards. The mound is twenty-two feet high, by ninety feet base. The principal exca-

vation was made from the west side, commencing at about one-third of the height of the mound from the top. At ten feet below the surface, occurred a layer of charcoal, not far from ten feet square, and from two to six inches in thickness, slightly inclined from the horizontal, and lying mostly to the left of the centre of the mound. The coal was coarse and clear, and seemed to have been formed by the sudden covering up of the wood while burning, inasmuch as the trunks and branches retained their form, though entirely carbonized, and the earth immediately above, as well as below, was burned of a reddish color. Below this layer the earth became much more compact and difficult of excavation. At the depth of twenty-two feet, and on a level with the original surface, immediately underneath the charcoal layer, and, like that, somewhat to one side of the centre of the mound, was a rude timber framework, now reduced to an almost impalpable powder, but the *cast* of which was still retained in the hard earth. This inclosure of timber, measured from outside to outside, was nine feet long by seven wide, and twenty inches high. It had been constructed of logs laid one on the other, and had evidently been covered with other timbers, which had sunk under the superincumbent earth, as they decayed. The bottom had also been covered with bark, matting, or thin slabs—at any rate, a whitish stratum of decomposed material remained, covering the bottom of the parallelogram. Within this rude coffin, with his head to the west, was found a human skeleton, or rather the remains of one; for scarcely a fragment as long as one's finger could be recovered. It was so much decayed that it crumbled to powder under the slightest touch. Around the neck of the skeleton, forming a triple row, and retaining their position, as originally strung and deposited with the dead, were several hundred beads, made of ivory, or the tusks of some animal. Several of these still retain their polish, and bear marks which seem to indicate that they were turned in some machine, instead of being carved by hand. A few laminae of mica were also discovered, which completed the

list of articles found with this skeleton. The feet of the skeleton were nearly in the centre of the mound. A drift beyond it developed nothing new, nor was a corresponding layer of charcoal found on the opposite side of the mound. It is clear, therefore, that the tumulus was raised over this single skeleton. In the case of a mound of this class, opened at Gallipolis, on the Ohio river, the chamber inclosing the skeleton was found just below the original surface,—which can always be detected by a strongly marked line and the uniform drab color of the earth beneath it.

The layer of charcoal is not uniformly found in mounds of this class, though it is a feature of frequent occurrence. It would seem to indicate that sacrifices were made for the dead, or that funeral rites of some kind were celebrated. The fire, in every case, was kept burning for a very brief space, as is shown by the lack of ashes, and the slight traces of its action left on the adjacent earth. That it was suddenly heaped over, is also proved by the facts already presented.

Bracelets of copper and silver; beads of bone and shell; mica plates and ornaments; stone instruments of various kinds, some of which are identical with those found in mounds of the first class, &c. &c., are found with the skeletons. In every instance falling within our observation, the skeleton has been so much decayed, that any attempt to restore the skull, or indeed any portion of it, was hopeless. Considering that the earth around these skeletons is wonderfully compact and dry, and that the conditions for their preservation were exceedingly favorable, while, in fact, they are so much decayed, we may form some estimate of their remote antiquity. In the barrows and cromlechs of the ancient Britons, entire and well-preserved skeletons are found, although having an undoubted antiquity of 1800 years.

In some of the sepulchral mounds, as has already been stated, the sarcophagus, if we so please to term it, was omitted by the builders, the dead body having been simply enveloped

in bark or matting. Perhaps this course was most frequently pursued. In these cases the original surface appears to have been carefully smoothed and leveled, for a space ten or twenty feet square, which space was covered with bark. Upon this was deposited the dead body, and, by its side, such personal ornaments or implements as were deemed proper, the whole being covered with another layer of bark, and the tumulus raised above. Instances have occurred in which it is clear that burial by *incremation* was made, but these are comparatively rare. In the celebrated mound at Gravo Creek, *two* sepulchral chambers were discovered, one at the base, another at a higher point. The lower one contained two skeletons, and the upper but one. The mound, in this respect, is somewhat extraordinary. It may be conjectured, with some appearance of reason, that it contained the bones of the family of a chieftain, or a distinguished individual, among the builders. It is common to find two or three, sometimes four or five, sepulchral mounds, in a group. In such cases, it is always to be remarked, that one of the group

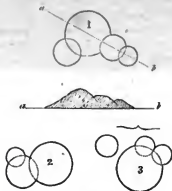


FIG. 70.

is much the largest, twice or three times the dimensions of any of the others, and that the smaller ones are arranged around its base, generally joining it, thus evincing an intended dependence

and close connection between them. Plans of three groups of this description are given in the annexed figures. May we not conclude that such a group is the tomb of a family—the principal mound covering the head of the same, the smaller ones its various members? In the Grave Creek mound, it is possible that, instead of building a new mound, an additional chamber was constructed upon the summit of the one already raised—a single mound being thus made to occupy the place of a group.

TEMPLE MOUNDS.

These mounds are distinguished by their general large dimensions and great regularity of form. They occur most usually within, but sometimes without, the walls of inclosures. They consist chiefly of pyramidal structures, truncated and generally having graded avenues to their tops. In some instances they are terraced, or have successive stages. But whatever their form, whether round, oval, octangular, square, or oblong, they have invariably flat or level tops of greater or less area. Examples are known in which, although but a few feet in elevation, they cover several acres of ground; in which cases they are commonly called "platforms." Examples of these structures are given in "Ancient Monuments of the Mississippi Valley," Plates XVIII., XXV., XXVI., and in Figs. 59, 60, 61, 62, 63, 64, 65. So far as ascertained they cover no remains, and are obviously designed as the sites of temples or of other structures which have passed away, or as "high places" for the performance of religious ceremonies. The likeness which they bear to the *Tzacallis* of Mexico, is striking, and suggestive of their probable purposes.

One of the most remarkable of this class of structures is that at Cahokia, in Illinois. Its form is that of a parallelogram, seven hundred feet long, by five hundred wide at the base. It is ninety feet high. Upon one side is a broad apron or terrace, which is reached by a graded ascent. At the time this mound was occupied by the Monks of La Trappe, the ter-

race was used as a garden. It is one hundred and sixty feet wide, and three hundred and fifty long. The summit, or highest part of the mound measures two hundred feet in width by four hundred and fifty in length. This mound covers not far from eight acres of ground, and the area of its level summit is about five acres. Its solid contents may be roughly estimated at 20,000,000 of cubic feet. In the states bordering on the Gulf of Mexico, these mounds constitute the most numerous and important part of the ancient remains. Here they are generally of larger size, and enter into new combinations, occurring entirely separate from inclosures of any sort, and frequently placed with great regularity in respect to each other. It sometimes happens that a large truncated mound is surrounded by a series of smaller ones, so as to form an ellipse, circle, square, or parallelogram.

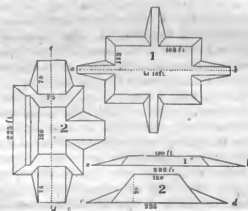


FIG. 71.

No. 1 in the above cut (Fig. 71), occurs within the great inclosure at Marietta, Ohio. The plan and sections exhibit its structure and dimensions. No. 2 is an elevation of a similar mound on the banks of Walnut Bayou, Madison Parish, Louisiana.

ANOMALOUS MOUNDS.

It will be impossible, within the compass of this *resumé*, to enter into the details which a proper notice of these mounds would require. Such a notice would necessarily involve a description of almost every one thus characterized. A single mound was examined which contained an altar, and also a skeleton with its rude inclosure of wood. It was elliptical in shape, measuring one hundred and sixty feet in length, sixty in width and twenty-five in height. The altar occupied one centre of the ellipse, the chamber of the skeleton the other. Of the twenty-six mounds embraced in "Mound City," six are of very small dimensions, not exceeding three feet in height. Within each of these was deposited a quantity of burned human bones in fragments, not exceeding in any case the amount of a single skeleton. No relics were found with these, though in one instance the fragment of an altar, a couple of inches square, was observed with the bones, leading to the conclusion that they were taken up from the altars, in the adjacent larger mounds, and afterward finally deposited here.

On the tops of the hills and on the jutting points of the table lands bordering the valleys in which the earth-works of the West are found, mounds occur in considerable numbers. The most elevated and commanding positions are frequently crowned by them, suggesting at once the use to which some of the cairns of the Celts were applied—that of signal or alarm posts. On a high hill, opposite Chillicothe, six hundred feet in height, the loftiest in the whole region, one of these mounds is placed. A fire built upon it would be visible for a distance of fifteen or twenty miles up and down the river, as well as for a number of miles up the valley of Paint Creek—a broad and fertile valley, abounding in ancient monuments. Between Chillicothe and Columbus, a distance of forty-five miles, there are about twenty mounds, so placed

that, it is believed, if the country were cleared of forests, signals by fire could be transmitted along the whole line in a few minutes. My examination of this description of mounds, from a variety of causes, has been comparatively limited. So far as my personal observation goes, they contain few of the remains found in the two classes of mounds just described; and, although there are traces of fire around many of them, the marks are not sufficiently strong to justify fully the inferences that they were *look-outs* and fires used as the signals. Indeed, it is certain that, in some cases, they contain human remains, undoubtedly those of the mound-builders. It is possible that a portion, perhaps all, were devoted to sepulture, another portion to observation, or that some answered a double purpose. This is a point which remains to be settled by more extended observations.

GENERAL OBSERVATIONS ON MOUNDS.

Whether these classes are maintained throughout the West, is a question which a systematic examination, carried on over a wide field, alone can determine. In almost every case falling within our knowledge, where mounds have been thoroughly examined by competent persons, some of the features here marked have been noticed. It is conjectured, that the "brick hearths," of which mention has occasionally been made, were the "altars," already described as belonging to a certain class of mounds. Nothing is more likely than that some of them were left uncovered by the builders, and subsequently hidden by natural accumulations, to be again exposed by the invading plough, or the recession of the banks of streams. The indentations occasioned by the passage of roots across them, or by other causes, would naturally suggest the notion of rude brick hearths.

REMAINS OF ART FOUND IN THE MOUNDS.

The condition of the ordinary arts of life, among the people which constructed the singular and often imposing monuments

we have been contemplating, furnishes a prominent and interesting subject of inquiry. How far the conclusion, already hypothetically advanced, that the vast amount of labor expended upon these works, their number, and the regularity and design which they exhibit, denote a numerous people, considerably advanced from the nomadic, hunter, or radically savage state,—how far this conclusion is sustained by the character of the minor remains, of which we shall now speak, remains to be seen.

It has already been remarked that the mounds are the principal depositories of ancient art, and that in them we must seek for the only authentic remains of the builders. In the observance of a practice almost universal among barbarous or semi-civilized nations, the mound-builders deposited various articles of use and ornament with their dead. They also, under the prescriptions of their religion, or in accordance with customs unknown to us, and to which perhaps no direct analogy is afforded by those of any other people, placed upon their altars numerous ornaments and implements,—probably those most valued by their possessors,—which remain there to this day, attesting at once the religious zeal of the depositors, and their skill in the minor arts.

The necessity of a careful discrimination between the various remains found in the mounds, resulting from the fact that the races succeeding the builders in occupation of the country often buried their dead in them, has probably been dwelt upon with sufficient force, in another connection. Aside from the distinctive features of the relics themselves, attention to the conditions under which they are discovered, and to the simple rules which seem to have governed the mound-builders in making their deposits, can hardly fail to fix, with great certainty, their date and origin. Their true position satisfactorily determined, we proceed with confidence to comparisons and deductions, which otherwise, however accurate and ingenious they might be, would nevertheless be invested with painful uncertainty. From want

of proper care in this respect, there is no doubt that articles of European origin, which, by a very natural train of events, found their way to the mounds, have been made the basis of speculations concerning the arts of the mound-builders. To this cause we may refer the existence of the popular errors, that the ancient people were acquainted with the use of iron, and understood the art of plating, gilding, etc.*

The relics found in the mounds are such only as, from the nature of the materials of which they are composed, have been able to resist the general course of decay:—articles of pottery, bone, shell, stone, and metal. We can, of course, expect to find but slight traces of instruments or utensils of wood, and but few, and doubtful ones at best, of the materials which went to compose articles of dress.

The first inquiry suggested by an inspection of the mounds and other earth-works of the West, relates to the means at the command of the builders in their construction. However dense we may suppose the ancient population to have been, we must regard these works as entirely beyond their capabilities, unless they possessed some artificial-aids. As an agricultural people, they must have had some means of clearing the land of forests and of tilling the soil. We can hardly conceive, at this day, how these operations could be performed without the aid of iron; yet we know that the Mexicans and Peruvians, whose monuments emulate the proudest of the old world, were wholly unacquainted with the uses of that metal, and constructed their edifices and carried on their agricultural operations with imple-

* A silver cup is said to have been found, many years ago, in a mound near Marietta, Ohio, which, "though simple in its form, was smooth and regular, and had its interior *finely gilded*." (*Schoolcraft's View*, p. 276.) This statement has been quoted by several writers, as illustrating the advance of the mound-builders in the arts. Assuming the fact to be as stated, there is nothing very extraordinary in the discovery. What more likely than that this cup fell, in course of barter or by accident, into the hands of some savage, with whom, in accordance with the Indian custom, it was buried at his death.

ments of wood, stone, and copper. They possessed the secret of hardening the metal last named, so as to make it subserve most of the uses to which iron is applied. Of it they made axes, chisels, and knives. The mound-builders, also, worked it into similar implements, although it is not yet certain that they contrived to give it any extraordinary hardness. A number of axes have been extracted from their depositories, the general form of which is well exhibited in the engravings of Mexican axes, presented in the first part of this work, in treating of the use of copper by the Aborigines. A specimen found in a mound near Chillicothe, Ohio, (A. M. Fig. 81,) consists of a solid, well-hammered piece of copper, and weighs two pounds and five ounces. It is seven inches long by four broad at the cutting edge, and has an average thickness of little less than four-tenths of an inch. Its edge is slightly curved, somewhat after the manner of the axes of the present day, and is *beveled* from both surfaces. Copper chisels, gravers, &c., have also been found in the mounds. The metal seems, however, to have been more generally applied to ornamental than useful purposes; for, while articles of ornament are common in both the sacrificial and sepulchral mounds, copper implements are comparatively rare. It is possible that ornaments were more generally placed in the mounds than articles of use; such certainly is the case in respect to the mounds of sepulture. Copper beads, bracelets, gorgets, &c. &c., are of frequent occurrence.

Silver has also been found, but in small quantities, reduced to great thinness, and closely wrapped around copper ornaments. The ore of lead, *galena*, has been found in considerable abundance, and some of the metal itself under circumstances implying a knowledge of its use on the part of the ancient people. The discovery of gold has been vaguely announced, but is not well attested. It is not impossible that articles of that metal have been found, with other vestiges of European art, accompanying secondary and recent deposits;

and it is far from impossible or even improbable, judging from the extensive intercourse which they seem to have maintained, that the metal may yet be disclosed under such circumstances as to justify the conclusion that it was not entirely unknown to the mound-builders. No iron or traces of iron have been discovered, except in connection with recent deposits; and there is no reason for believing that the race of the mounds had the slightest acquaintance with its uses.

It is hardly to be supposed that the silver and copper found in the mounds, were reduced from the ores of these metals. On the contrary, it is nearly certain that they were obtained native from primitive deposits. Indeed, fragments of unwrought native copper have occasionally been discovered, of considerable size; one of these, from which portions had evidently been cut, weighing twenty-three pounds, was found, a few years since, near Chillicothe. Both metals appear to have been worked in a cold state, and display the lamination of surface resulting from such a process. This is somewhat remarkable, as the fires upon the altars were sufficiently strong, in some instances, to melt down the copper ornaments and implements deposited upon them, and the fact that the metal was fusible could hardly have escaped notice. The locality, from which a portion at least of the supply of these metals was obtained, is pretty clearly indicated, by the peculiar mechanico-chemical combination existing in some specimens between the silver and copper, which combination characterizes the native masses of Lake Superior. The evident scarcity of silver may also be regarded as supporting this conclusion.

Galena, as already observed, is found in considerable quantities. One of the altars uncovered was entirely occupied by a deposit of this mineral, which had been slightly subjected to the action of fire. No native deposits of galena are known to exist in Ohio, and the supply of the mounds was probably

obtained from the well-known localities on the Upper Mississippi.

The comparative scarcity of copper implements seems to imply that they were not in general use. At any rate, they never entirely superseded the ruder articles of bone and stone, so generally diffused among rude nations all over the globe. In Mexico and Peru those characteristic implements of a ruder state were still adhered to at the period of the discovery. The early explorers found all the American nations, from the squalid Esquimaux, who struck the morse with a lance pointed with its own tusks, to the haughty Aztec, rivaling in his barbaric splendor the magnificence of the East, including the fearless hunter tribes situated between these extremes, in possession of them. We are not, therefore, surprised at their occurrence in the mounds. We find them with the original and with the recent deposits, and the plough turns them up to light on every hand. And so striking is the resemblance between them all, that we are almost ready to conclude they were the productions of the same people. The conclusion would be irresistible, did we not know that the wants of man have ever been the same, and have always suggested like forms to his implements, and similar modes of using them. The polished instrument with which the pioneer of civilization prostrates the forest, has its type in the stone axe of the Indian which his plough the next day exposes to his curious gaze. In the barrows of Denmark and Siberia, in the tumuli on the plains of Marathon, and even under the shadow of the pyramids themselves, the explorer finds relics, almost identical with those disclosed from the mounds, and closely resembling each other in material, form, and workmanship. We have consequently little whereby to distinguish the remains of the mound-builders, so far as their mere implements of stone are concerned, except the position in which they are found, and the not entirely imaginary superiority of their workmanship, from those of the succeeding races. We

have, however, in the different varieties of stone of which they are composed, the evidences of a communication more extended than we are justified in ascribing to the more recent tribes. For instance, we find knives and lance-heads of *obsidian* (the *itzli* of the Mexicans and the *gallinazo* stone of the Peruvians), a volcanic product, the nearest native locality of which, so far as we know, is Central Mexico, the ancient inhabitants of which country applied it to the very purposes for which it was used by the race of the mounds.

Arrow and lance heads and outting instruments of the numerous varieties of quartz, embracing every shade of color and degree of transparency, from the dull blue of the ordinary hornstone to the brilliant opalescence of the chalcedony varieties, are frequent in the mounds. Some are worked with exquisite skill from pure, limpid crystals of quartz, others from crystals of manganesian garnet, and others still, as before observed, from obsidian. It is a singular fact, however, that none of these, nor indeed any traces of weapons, have been discovered in the "sepulchral mounds;" most of the remains found with the skeletons being evidently such as were deemed ornamental, or recognized as badges of distinction. Some of the altar or sacrificial mounds, on the other hand, have the deposits within them almost entirely made up of finished arrow and spear points, intermixed with masses of the unmanufactured material. From one altar were taken several bushels of finely worked lance heads of milky quartz, nearly all of which had been broken up by the action of fire. In another mound, an excavation six feet long and four broad, disclosed upwards of six hundred spear heads or discs of hornstone, rudely blocked out, and the deposit extended indefinitely on every side. Some of these are represented in the accompanying engraving. They are necessarily greatly reduced. The originals are about six inches long and four broad, and weigh not far from two pounds each. Some specimens from this deposit are nearly round, but most are of the shape of those here figured. We are wholly at a loss re-

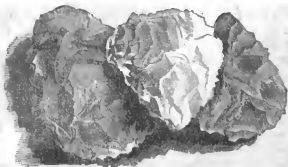


FIG. 72.

specting their purposes, unless they were designed to be worked into the more elaborate instruments to which allusions has been made, and were thus roughly *blocked out* for greater ease of transportation from the quarries. Several localities are known from which the material may have been obtained. One of these, distinguished as "Flint Ridge," has been described on a preceding page.

One description of knives, found in the mounds, is illustrated in the following engraving, which also exhibits the absolute identity that sometimes exists between the remains of widely separated people, and how, almost as it were by instinct, men hit upon common methods of meeting their wants.



FIG. 73.

No. 1 is of flint, from a Scandinavian barrow; No. 2 is of hornstone, from a mound in Ohio; and No. 3 is of obsidian from the pyramids of Teotihuacan, in Mexico. They are all made in a like manner, by dexterously chipping off thin, narrow pieces from blocks of the various minerals mentioned, all of which break with a clear, conchoidal fracture and sharp cutting edges. Clavigero states that, so skillful were the Mexicans in this manufacture, that their workmen produced a hundred per hour. It was with knives of this kind that the bloody sacrifices of the Aztecs were performed.

In the manufacture of pottery, as has already been intimated, the mound-builders attained a considerable proficiency. Many of the vases recovered from the mounds display, in respect to material, finish, and model, a marked superiority to anything of which the existing Indian tribes are known to have been capable, and compare favorably with the best Peruvian specimens. Though of great symmetry of proportions, there is no good reason to believe that they were turned on a lathe. Their fine finish seems to have been the result of the same process with that adopted by the Peruvians in their manufactures. Some of them are tastefully ornamented with scrolls, figures of birds, and other devices, which are engraved in the surface, instead of being embossed upon it. The lines appear to have been cut with some sharp, gonge-shaped instrument, which entirely removed the detached material, leaving no ragged or raised edges. Nothing can exceed the regularity and precision with which the ornaments are executed. The material of which the vases are composed is a fine clay, which, in the more delicate specimens, was worked nearly pure, or possessing a very slight silicious intermixture. Some of the coarser specimens have pulverized quartz mingled with the clay, while others are tempered with salmon-colored mica, in small flakes, which gives them a ruddy and rather brilliant appearance, and was perhaps introduced with some view to ornament as well as utility. None appear to have been glazed; though one or two, either from

baking or the subsequent great heat to which they were subjected, exhibit a slightly vitrified surface.

Various *terra cotta*s are extracted from the mounds, though they are far from numerous. They generally represent the heads or figures of animals.

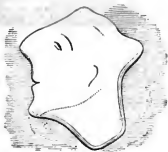


FIG. 74.

Fig. 74, is an outline representation of a rattle of baked clay, found in a mound near Nashville, Tennessee. It has the form of a human head, with a portentous nose and unprecedented phrenological developments. It is smooth and well polished, and contains six small balls of clay, which were discovered by perforating the neck. They must necessarily have been introduced before the burning of the toy. Similar conceits were common in Mexico and Peru, and were observed by Kotzebue upon the Northwest Coast.

Among the minerals found in the mounds, mica is most abundant. It occurs both in the sacrificial and sepulchral mounds, and seems to have been invested with a superstitious regard, and associated with certain burial and religious rites. Some idea can be formed of its abundance from the fact that bushels are sometimes taken from a single mound. It is found of every variety—the common or transparent, silvery or opaque, and graphic or hieroglyphical varieties. Some specimens have a fine golden tinge, resembling Dutch leaf. It is sometimes neatly cut into ornamental figures, discs, scrolls, and oval plates, which seem to

have constituted ornaments for dresses. A quantity, cut into the form of discs each a foot in diameter, was found in a mound near Chillicothe; the plates, which overlapped each other like the tiles of a roof, being so arranged as to form a crescent, five feet in diameter at the widest part, and upwards of twenty feet long. Some fine specimens of the graphic variety, in thin oval plates, were recently discovered in a mound near Lower Sandusky, Ohio, which were supposed, by those who first examined them, to bear indubitable hieroglyphics. A native deposit of this variety occurs on the Schuylkill river, a few miles above the city of Philadelphia. The mineral must be referred to some primitive locality or localities, which it would be interesting to identify; for, by the identification, accurate or approximate, of the original sources of the various foreign articles found in the mounds, we are enabled to fix, with greater or less certainty, the extent of the intercourse, if not in some degree the direction of the migrations, of the ancient people.

It is in this view that the discovery of pearls and marine shells in the mounds, is specially interesting. Of the latter, not less than five kinds have been recognized; viz., the *cassis* (several varieties), the *pyrula perversa*, *oliva*, *marginella*, and *natica*. These shells are all found on our Southern shores.* They

* Several of these shells, including the *pyrula perversa* and the *cassis cornutus*, were discovered several years ago in a mound near Cluenaatl, and others near Lexington, Ky., which have since figured largely in most speculations on American antiquities and the origin of the American race. They were assumed to be peculiar to Asia; and, as similar shells were sacred to certain religious rites, or consecrated to certain gods of the Hindoos, have been cited in support of the hypothesis that the builders of the mounds had their origin in India. [See *DeLafield's Inquiry*, *Bradford's Researches*, *Laing's Polynesian Researches*, &c. &c.] This is but one of many instances in which an erroneous assumption has been perpetuated by succeeding writers, each quoting from his predecessor without submitting his statements to a critical analysis. The well-known fact that these shells occur in abundance on our Southern shores, relieves them from the necessity to which they have heretofore been subjected, of a transportation of twelve thousand miles,—ten thousand by sea, and two thousand by land!

seem to have been chiefly used for ornamental purposes, and hundreds of the *marginella*, pierced longitudinally so as to be strung, are sometimes found accompanying a single skeleton. Great numbers of beads worked from the compact portions of some of the larger shells, are also found. These, generally much altered by long exposure, were originally supposed to be ivory, and their frequent discovery probably gave rise to the notion that ivory is common in the mounds. It has been suggested that many of them were worked from the columella of the *strombus gigas*, which has been discovered in some of the ancient graves of Tennessee. Quantities of pearls, more or less hurned, have been found, but only upon the altars. They are clearly not from the fresh water molluscas; their numbers and great size forbid the supposition. They are easily identified by their concentric lamination. They are generally pierced for beads, but some of the smaller ones, as will shortly appear, constituted the eyes of the ancient sculptures of animals and birds. We must refer these to the same locality from whence the shells above named were procured; where, as we are informed by the early writers, the Southern Indians carried on the pearl fishery. It may be mentioned, in this connection, that the teeth of the shark and alligator, bear, panther and wolf, and the talons of rapacious birds, as also the fossil teeth of the shark,—the latter most likely from the tertiary of the Lower Mississippi,—have all been found in the mounds. Most of them are perforated, and were probably used as ornaments or amulets, but some seem designed as implements. Many large teeth, probably cetacean, have been discovered; not far from one hundred occurred in a single mound. They were all too much hurned to be recovered entire. One of the largest measured six inches in length, and upwards of four inches in circumference at the largest part. They are destitute of enamel, and have a pulp cavity, in this respect resembling those of the whale, from which, however, they differ widely in shape. They have not yet been identified. The mound-builders evidently

used them for various purposes, and some of the articles taken for ivory may have been made from them. A specimen was found which exhibited marks of having been sawn, drilled, and polished. Accompanying them were several beautifully carved cylinders of a compact substance resembling ivory; one of these was originally fourteen inches in length, and when found was closely wrapped in sheet copper. Bones of the elk, deer, etc., worked into the form of daggers, awls, etc., are of frequent occurrence.

It is impossible here to indicate the great variety of the implements and ornaments of silver, copper, stone, &c. &c., found in the mounds. Many of these are of a very interesting character, as illustrating the state of ancient art, and as enabling us, from the material of which they are composed, their peculiarities of form, and correspondences of use, to define the intercourse, and in some degree the connections, of the ancient races. From what has already been presented, it will be seen that there are gathered in the mounds, or the alluvions of the Ohio, copper and silver from the Great Lakes; pearls and shells from the Southern Gulf; mica from the primitive ranges of the Alleghanies, and obsidian from the volcanic ridges of Mexico,—an extended range, the extremes of which define, with great precision, the field in which the mounds occur. It would almost seem that the ancient race existed contemporaneously over this great area, maintaining throughout a constant intercourse.

There is one class of ancient remains which probably possesses a greater popular interest than any other. These are the sculptures or carvings in stone, of which a great variety occur in the mounds. These display no inconsiderable degree of taste and skill. They exhibit a close observance of nature, and an attention to details, which we are unprepared to look for among a people not considerably advanced in the arts, and to which the elaborate and laborious, but usually clumsy and ungraceful productions of the savage, can claim but slight ap-

proach. Savage taste in sculpture is oftenest exhibited in monstrosities, caricatures of things rather than faithful copies. The carvings from the mounds, on the contrary, are remarkable for their truthfulness; they display not only the general form and features of the objects sought to be represented, but to a surprising degree their characteristic expression and attitude. In some instances their very habits are indicated; the otter is represented securing a fish, so also is that inveterate fisher, the heron, and the hawk holds a small bird in his talons and tears it with his beak. These representations are so exact as to leave no doubt as to the animals designed to be exhibited. Hardly a beast, bird, or reptile, indigenous to the country, is omitted from the list. We identify the beaver, the otter, elk, bear, wolf, panther, racoon, opossum, and squirrel; the hawk, heron, owl, vulture, raven, swallow, paroquet, duck, goose, and numerous other varieties of land and water birds; the alligator, turtle, toad, frog, rattlesnake, etc. etc. Besides these there are carvings of various animals and birds not indigenous to this latitude; for instance, the lamantin or manitus, and the tocan. Several carvings, supposed to represent the manitus, have been discovered, one of which is shown, of full size, in the following engraving:

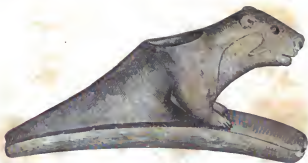


FIG. 75.

The engraving does not do full justice to the original, which is exquisitely carved and polished, every feature being clearly made out. The sculpture answers very well to the descriptions of the manitus given by naturalists. It has the obtuse head (not well shown in the engraving); thick, fleshy snout; semilunar nostrils; tumid upper lip, furrowed in the middle; scarcely distinguishable ears; the singular monstaches mentioned by Desmonlin; short, thick neck, and rudimental paws, or, as they were called by the Spaniards' hands. The general form also corresponds with the descriptions given. But one of the sculptures exhibits a flat, truncated tail; the rest are round, and rather long. There is a variety of the lamantin, however, known as the round-tailed manitus, to which they may bear a closer resemblance. This animal is only found in tropical regions; it occurs, though rarely, on the Peninsula of Florida, and, it is believed, nowhere else within the limits of the United States. The inhabitants of San Christophers, Guadaloupe, and other of the Barbadoes, formerly used it for food, and the Southern Indians made use of its hide for thongs, and its bones for implements. The sculptures of this last of animals or first of fishes, are all of the same style of workmanship, and of like materials, with an entire class of sculptures found in the mounds. Consequently, either the same race of men, possessing throughout a like mode of workmanship and deriving their materials from the same sources, existed at the same period over the intervening country, from the Ohio to the haunts of the manitus on the Southern coast, and maintained a constant intercourse; or else there was, at some time, a migration from the South, bringing with it these characteristic remains of another region. We cannot conceive that these sculptures alone are fanciful creations, bearing only an accidental resemblance to the manitus, while the others accompanying them are faithful representations of objects generally easily recognizable.

It should be remarked, that the mound-builders seem to

have been inveterate smokers, and that in the construction and ornament of their pipes they displayed their utmost skill. They are always carved from a single piece, and consist of a flat, curved base of variable length and width, the bowl rising from the convex side. From one of the ends, communicating with the bowl, is drilled a small hole answering the purposes of a tube; the corresponding opposite division being left for the manifest purpose of holding the implement to the mouth. The bowls of these pipes are often sculptured into singular devices, figures of the human head, of animals, birds, etc. etc., of which examples are given in the "Ancient Monuments of the Mississippi Valley," from Fig. 142, to Fig. 194, inclusive.

Of a very different character, and doubtless of a very different origin, is a class of sculptures of which the following cut, Fig. 76, presents an example. It is carved from a dark-colored



FIG 76.

sandstone, and presents a human figure resting upon its knees and elbows. The limbs, however, are barely indicated. The figure is boldly though roughly carved, with the exception of the face, which is better finished and quite characteristic. It has peculiar markings, extending from the eyes diagonally across the cheeks. A large serpent is folded around the neck; the head and tail of the reptile resting together upon the breast of the figure. The head is surmounted by a knot, resembling the "scalp-lock" of the Indians. It is six inches in greatest length, five inches high, and has a broad, flat base. It was ploughed up, some years since, near Chillicothe, Ohio. Like the more delicate sculptures above referred to, it was adapted for a pipe.

Several other specimens, closely resembling the one last described, have been found at various points upon the surface, but none have been developed from the mounds. Both in material and workmanship they sustain a close relationship to certain "stone idols," as they have been termed, discovered in Virginia, Tennessee, and elsewhere. The fact that no sculptures of this description have been found in the mounds, and the comparative rudeness which they exhibit, induce the belief that they belong to a different era, and are the work of another and a ruder people.

A large proportion of the mound sculptures are executed in a fine porphyry. It occurs of many shades of color; some varieties have a greenish brown base, with fine white or black grains; others a light brown base, with white, purple, and violet-tinged specks; but most are red, with white and purplish grounds. In some specimens the base exhibits scarcely any admixture, and strongly resembles the *Callinite*, or red pipe-stone of the *Coteau des Prairies*. All the examples are of great hardness; a natural characteristic, or measurably the result of the great heat to which they have been subjected. Under heat this porphyry splinters, often in a nearly uniform plane; and examples have been remarked, partly fused into a

porous, dark brown mass. Heat has the effect of rendering the specimens with a red base of a bright black; and some of the restored sculptures exhibit a striking contrast in the color of their different parts. The primitive locality of this mineral is unknown.

All carvings from the mounds are exquisitely wrought; and in all cases where the material will admit of it, beautifully polished. We can scarcely understand how, in the absence of instruments of iron, the carvings were executed. It may be suggested that they were rubbed into shape upon hard rocks; but, apart from the incredible labor of such a process, and the palpable impossibility of securing the delicate features which some possess, by such means, we find some of the unfinished specimens which show that, however the general outline was secured, all the lines and more delicate features were *cut* or *graved* in the stone. The copper tools, resembling graters, seem hardly adequate to this work, but they are the only instruments discovered which appear at all adapted to the purpose.

The limits assigned to this *resumé* prohibits any further account of the remains found in the mounds. Those who wish to pursue the subject, will find ample materials and illustration in my work on the monuments of the West, so often referred to in the preceding pages, and in my (in some respects supplementary) work on "The Serpent Symbol, and the Worship of the Reciprocal Principles in America." What has already been presented may serve to give some slight conception of the general character of the ancient works of the West, if not of their number. The relationship which they exhibit, in many respects, to remains found elsewhere on the continent, will probably be forcibly suggested to most minds, and may serve in a degree to indicate, as has already been remarked, the dependencies and intercourse, as well as illustrate the minor arts of the ancient people. They should, however, be considered only in connection with the other more imposing remains with which

they are associated, as collateral aids in the solution of the grand questions involved in the ancient history of man in America.

There is a single point more, which, from a variety of causes, has been invested with a special interest, and which it will not be out of place to notice in this connection, viz.: the alleged discovery in the mounds, of sculptured tablets, bearing hieroglyphical or alphabetical inscriptions. Nothing, to which it would be possible to assign any such extraordinary character, has been discovered by the author, in the course of his investigations; nor does it seem likely that anything like an alphabetical or hieroglyphical system existed among the mound-builders. The earth-works and their contents certainly establish that prior to the occupation of the Mississippi valley by the tribes found in possession by the Europeans, there existed here a numerous people, possessing a different social, and probably a different civil organization,—an agricultural people, considerably advanced in the arts, and undoubtedly, in most respects, superior to the hunter tribes with which we are acquainted. There is no evidence, however, that their condition was anything more than a limited approximation to that attained by the ancient Mexicans, Central Americans, and Peruvians, which nations had made but the first advance toward an alphabet. Whether they had progressed further than to a refinement on the picture-writing of the savage tribes, is not yet considered established. It would be unwarrantable, therefore, to assign to the race of the mounds, a superiority in this respect over these nations, which were so much in advance of them in all others. It would be a practical reversal of the philosophic teachings of History, an exception to the laws of progress, which it would require a large array of well-attested facts to sustain. Such an array of facts we do not yet possess.







